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# Manitoba Medical Review



Canadian Medical  
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**Annual Meeting**  
Winnipeg  
June 15-19, 1953

Special Presentation  
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**Royal Winnipeg Ballet**  
During Convention Week  
See Page 199 for Particulars

Vol. 33

APRIL, 1953

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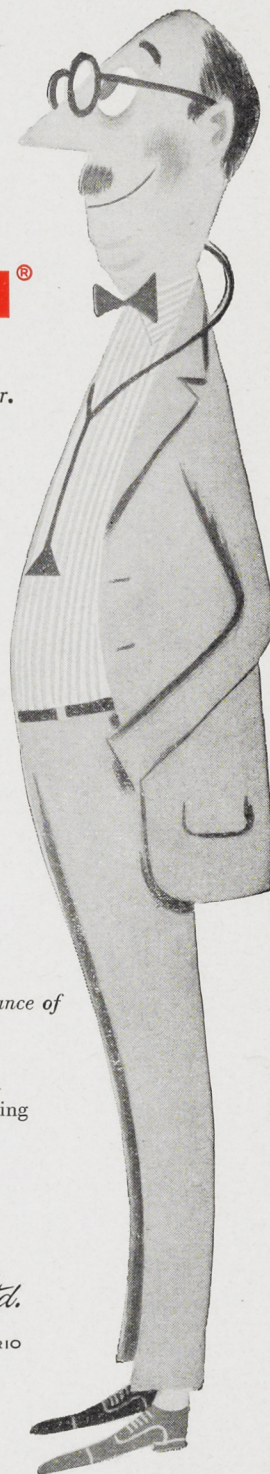
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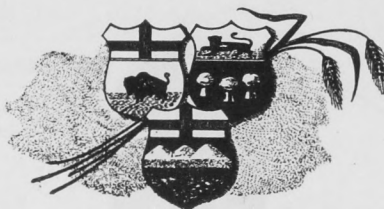
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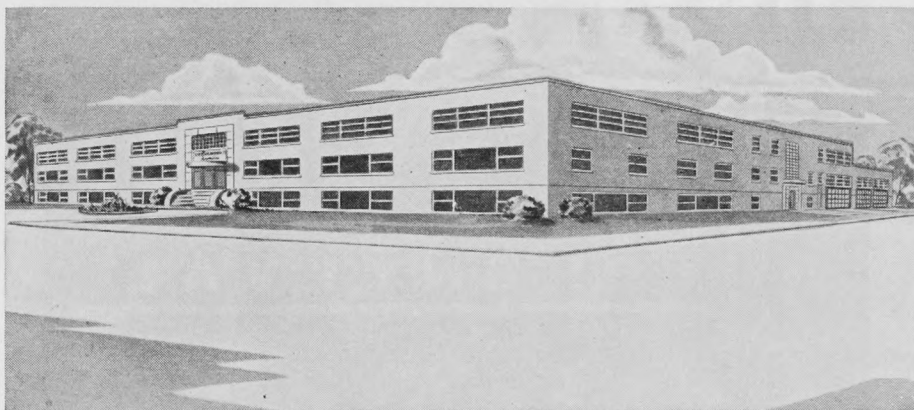
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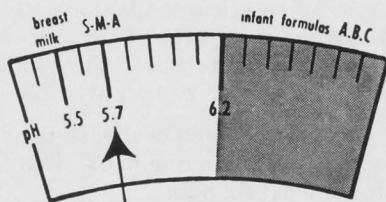
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## Medicine

### \*Sleep Disturbances of Clinical Interest

J. W. Scott

Professor of Medicine, Dean, Faculty of Medicine,  
University of Alberta.

Sleep and wakefulness as alternate phases of the cycle of existence have attracted wide interest from the days of Aristotle until now. Aristotle, in his *Parva Naturalia*, looked on the sleeping and waking states as opposites and contraries. He compared sleep and waking to sickness and health, ugliness and beauty, blindness and sight. This philosophical concept would class wakefulness as a good and sleep as a bad thing, like life and death. This is still a popular view, sleep being thought of as the antithesis of wakefulness. The physician and the physiologist, however, can hardly hold to the view that sleep and wakefulness are diametrically opposite states in the human individual.

Before we consider the disturbances of sleep that are of interest to us as physicians, let us speculate a bit as to what causes sleep.

An earlier speculative theory, the so-called neuron theory, was based on the assumption that the synapses between the neurons of the higher cortical centres were broken during sleep. It would be difficult to elicit histological evidence to support such a theory.

Is sleep produced by ischemia of the brain? Compression of the carotid arteries produces unconsciousness, indeed the word carotid is derived from the Greek word "Karos," meaning sleep. However, there is a great difference between the unconscious state following carotid compression and normal sleep. Experimentally it has been shown that there is no diminution of carotid blood flow in the sleeping animal.

One finds it intriguing to hypothecate a chemical theory of sleep and to assume that the fatigue products of wakefulness act on the brain, producing sleep. Against this is the very obvious fact that one does not need to be fatigued to sleep. Indeed, the reverse is true. One may be unable to sleep even though one is utterly fatigued.

Pavlov's concept of sleep as a conditioned reflex with spread of inhibition over the cerebral cortex has much in its favor. The dog can be conditioned to go to sleep in response to repeated auditory, tactile, or visual stimuli. We are all familiar with the state of drowsiness in ourselves which may result from monotonous stimulation

from a dull sermon or lecture. The surroundings of one's own bedroom and the act of undressing may be looked on as conditioning stimuli conducive to sleep. The strange surroundings of an unaccustomed bedroom may prevent sleep.

Kleitman has developed the concept that sleep is brought about by inactivity of the brain cortex following a diminution of afferent impulses from the muscles and skin to the sensory centres. It is common knowledge that the exclusion of visual and auditory stimuli and the presence of muscle relaxation, excluding proprioceptive impulses, are conducive to sleep.

Let us glance for a moment at some of the changes of bodily functions which occur during normal sleep. Muscle relaxation is complete in man. However, some animals, such as the horse, can sleep while standing. The deep reflexes are abolished and a positive Babinski sign is usually present. The systolic blood pressure is reduced by 10 to 30 mm. and the pulse is slowed. The basal metabolic rate is lowered by 10 to 20 per cent. Exciting dreams have been shown to increase the systolic blood pressure up to 180 mm. in a normal person and to a proportionately higher level in the hypertensive person. This may be a factor in the production of nocturnal dyspnoea in the patient with left ventricular failure. Studies of patients with essential hypertension show that a marked drop in both systolic and diastolic pressure occurs during sleep. This does not hold for the same degree in other forms of hypertension. Two factors probably contribute to the lowering of blood pressure—first, the decreased vasomotor tone and secondly, the slowing of the heart.

The significance of the lowering of blood pressure during sleep in the management of essential hypertension needs no comment. The lowering of blood pressure and decreased circulatory rate in the state of sleep offers a reasonable explanation for the occasional occurrence of coronary and cerebral thrombosis while the patient is asleep.

The sleep requirements vary with age and with the individual. All of us have met the hypomaniac type of person who gets along with 4-6 hours of sleep. Increased sleep requirements and somnolence are apt to occur with increasing age, even in the most intellectual person. William Butler Yeats expresses this very beautifully in one of his poems, beginning with the lines, "When you are old and grey and full of sleep and nodding by the fire."

\*Presented at the Annual Meeting of the Manitoba Medical Association, Winnipeg, October 10th, 1952.

Patients are often concerned with their inability to sleep and become fearful of the results of insomnia. Actually loss of sleep in the healthy individual has not the harmful effects that one might anticipate. Experimental deprivation of sleep in human volunteers has been carried on with the aid of benzedrine sulphate for a period of 180 hours. The effects were extreme muscular weakness and inability to carry on sustained mental or physical effort. There was increased sensitivity to pain, irritability, inability to concentrate, and a tendency to hallucinations. The symptoms disappeared after twelve hours of normal sleep and no permanent ill effects resulted.

Insomnia is a common symptom in the practice of medicine. The inability to sleep, for which the patient comes to the doctor's office, can in most cases be attributed to faulty hygienic habits of living, faulty mental adjustments and anxiety states. The fears and frustrations that are a part of the lives of all of us, which can be suppressed below the level of consciousness in our active day hours, creep into consciousness and torment us when we try to sleep. Sleeplessness of this type can usually be corrected in the intelligent, co-operative patient by correcting faulty habits of living. Drugs are not often needed. Hypnotic drugs are used and abused more than any other drug in the pharmacopeia.

Drugs as sleep producing agents have been mentioned in the earliest medical writings. One of the first recognized hypnotics was Cannabis, which is referred to in a Chinese Herbal 500 years before the Christian era. It has passed out of use as a sedative and is of interest today as the active principle of marihuana. Opiates and alcohol were among the earlier drugs used as hypnotics. Their habituation tendencies make their use inadvisable unless sleeplessness is accompanied by other symptoms such as pain or dyspnoea. Bromides were first used medicinally about 100 years ago, just 10 years after the element bromine was found in the blue waters of the Mediterranean. Potassium bromide acts on the cerebral cortex and mid-brain. It is still a valuable hypnotic. However, its toxic effects in occasionally producing psychotic states have lessened its popularity in the past twenty years.

Chloral hydrate was introduced into medicine about 80 years ago. Chloral is one of the least expensive and best hypnotics. Its action is on the cerebral cortex like the barbiturates, depressing the perceptive areas of the cerebrum. Chloral hydrate is said to give physiological sleep without dreams or after effects. It is now marketed in quarter and half gram capsules which facilitates dispensing and overcomes the rather unpleasant gastric irritation and taste which the drug caused when taken in solution.

Paraldehyde was first used as a hypnotic 70 years ago. Its action is similar to chloral hydrate and it is well recognized as an effective, safe hypnotic, orally, rectally and intramuscularly. Unfortunately, like the skunk, the removal of its odor lessens its effectiveness. In spite of the odor and taste, one has had the experience of two patients becoming addicted to paraldehyde.

The open chain Ureide Compounds, such as bromural and carbromal, better known under the trade name Adalin, are less commonly used. These drugs are milder in their action than the barbiturates. They are valuable both as sedatives and hypnotics. One rarely sees the toxic effects which may occur with barbiturates.

The barbiturates were first used in the form of barbitol under the trade name of Veronal just 50 years ago. Phenobarbital followed a few years later. Within the past 40 years the number of barbituric acid derivatives has increased by leaps and bounds. Their action is largely on the cerebral cortex, depressing perception.

The usual convenient grouping into long acting, intermediate acting, and short acting compounds is outlined below.

A. Long Acting.

Barbitol (Veronal)

Phenobarbital

B. Intermediate Acting.

Amytal

Pentobarbital (Nembutal)

Phanodorn

C. Short Acting.

Seconal

Evepal

D. Synergistic Group.

Somnol

Plexonal

Their use is widespread, and self-medication with barbiturates is freely practised. Their use is not without danger. Toxic skin eruptions are common with phenobarbital. Habituation, dependence and addiction may occur with seconal and nembutal, particularly when used by the alcoholic.

A consideration of the pharmacology of sleep would not be complete without mention of amphetamine and its derivatives. The levo-rotary form under the name of benzedrine was introduced into medicine 20 years ago. Benzedrine has many interesting pharmacological effects on various systems. It interests us here as a cerebral stimulant and analeptic. It is of value in the treatment of narcolepsy and in some patients with post-encephalitic Parkinsonism. Used in the earlier part of the day with a hypnotic on retiring, normal sleep rhythm may be established in the patient who sleeps all day and stays awake all night.

There are many nocturnal conditions which may arouse the patient from sleep for which one can find no good explanation. Cramp-like con-

tractions in the leg muscles is a common complaint at all ages. It has been suggested that the cramp is due to lengthening and relaxation of the leg muscles during sleep, and that this acts as a trigger mechanism leading to violent muscle contraction. Quinine sulphate in 5 to 10 grain doses is a simple and effective remedy.

One can find no good answer to the cause of nocturnal hemoglobinuria. This is a rare and interesting condition in which there is intravascular hemolysis with the passage of bloody urine during the night hours.

An occasional nocturnal disorder is proctalgia. The patient is awakened by severe high rectal

pain for which no cause can be found. A saline enema usually gives relief.

It is common knowledge that the pain of bone tumor may be worse at night and may rouse the patient from sleep. The possible explanation is the increased vaso-dilatation which occurs during sleep in a hard, non-yielding substance such as bone.

#### Conclusion

These rambling remarks dealing with the sleep mechanism and its variations in health and disease will, it is hoped, remind you of some of the physiological processes which may operate in sleep and wakefulness.

## Tuberculosis

Deaths from tuberculosis have decreased remarkably during the past few years and in 1952 were the lowest ever recorded for Manitoba, 15.8 per 100,000 of population. Earlier diagnosis has been a factor but the greatest reason is more effective treatment by Streptomycin, Para-amino-salicylic Acid and more recently, Isonicotinic Acid Hydrazide. Along with these new drugs, a better understanding of the pathogenesis of tuberculosis and the timely use of surgery, especially resection surgery, has made treatment much more definitive.

Discussing deaths, however, presents only part of the story and of equal, or even greater, significance is morbidity. The facts are that although deaths are decreasing new active cases of pulmonary tuberculosis have been increasing during the past two years—from 333 in Manitoba in 1951 to 368 in 1952 (excluding Indians).

Case-finding efforts have been greatly intensified mainly through x-ray surveys, industrial and pre-employment chest films, routine chest filming of general hospital admissions and concentrating on areas of the Province having the highest incidence. During the past six years, 250,000 to 300,000 chest x-rays have been taken annually.

A very full programme is planned for this year beginning with a survey of Ward Two in Winnipeg, carried out by the Sanatorium Board in co-operation with the City Health Department. Ward Two

has a slightly higher incidence of tuberculosis than the other wards and it is planned that a ward will be covered each year. The survey got underway on February 16th and will run through until April 2nd. Hundreds of volunteer workers are assisting and twenty-five convenient sites (schools) were chosen to ensure convenience. The degree of success depends upon the percentage of the population presenting themselves for x-ray and in this respect, the approval and backing of this project by the Winnipeg doctors will be a sincerely appreciated contribution. All age groups should be urged to attend, including those in older and elderly age groups. Pulmonary tuberculosis is definitely increasing in people over the age of fifty, indeed, over seventy and just last week a man of ninety-three was found with new active bacillary tuberculosis.

The 70 millimeter chest films are read daily at the Central Tuberculosis Clinic and abnormal findings reported to the patient's physician. Even with organized case-finding programmes the responsibility and importance of the private physician in the eradication of tuberculosis is fully appreciated.

Dr. E. L. Ross,  
Medical Director,  
Sanatorium Board of Manitoba.

## S u r g e r y

### \*Maxillo-Facial Injuries and Their Treatment

J. A. Ludwig, M.R.C.S. (Eng.), L.R.C.P. (Lon.),  
M.S., D.D.S.

In dealing with the subject of maxillo-facial injuries one has a wealth of material to discuss involving both professions namely—medicine and dentistry. However I shall not tax your indulgence as time will not permit me to go into too much detail. I shall therefore give you a bird's eye view of the subject and try to bring out useful points for the general practitioner to use.

For matter of convenience the face is divided into three components. (a) the upper, (b) the middle, (c) the lower. A line through the pupils divide the upper from the middle third and a line through the mouth the middle from the lower. The upper third consists of the frontal bones of the skull, injuries to this area do not concern this paper. The middle third is composed of the maxilla, lacrymal, ethmoid, nasal and malar bones and zygomatic arch. The lower third is composed of the mandible attached to the base of the skull by the Temporomandibular joint and occluding with the maxilla via the teeth.

The lower jaw is more exposed to violence and consequently is more often fractured than any other facial bone. There are four types of jaw fractures:

1. Civilian—Caused by minor accidents, falls, blows, teeth extractions, etc. These are usually simple fractures.

2. Crush—Caused by motor car and aeroplane accidents. These are usually multiple, compound and displaced greatly. There may be extensive soft tissue injuries.

3. Gunshot—These are characteristic of gross comminution with loss of bone and soft tissue.

4. Air-raid—These may be a combination of the above. A common feature here being the gravel rash, dust and particles driven deeply into the layers of the skin.

Typical fractures of the mandible are direct, at the point of impact, and indirect in other parts as result of transmission. The common sites in order of sequence are:

1. The angle of the jaw—that is posterior to the last molar.

2. Mental foramen.

3. Symphysis—fracture in the mid line.

4. The molar region.

5. Neck of condyle—usually indirect, as a result of a blow on the chin. The amount of displacement will vary from nil to fracture dislocation.

The body is displaced towards the injured side.

Now what are the symptoms and how does one arrive at his diagnosis:

1. History of the injury.

2. Deformity—usually the deformity is marked and there is an alteration in the alignment of the teeth, i.e. the occlusion is abnormal.

3. Abnormal mobility—the patient is instructed to move the jaw, when the teeth in two fragments will be seen to move independently. Manipulation may be necessary with one hand at the angle and the other hand at the symphysis, the jaws can be moved in sections.

4. Pain is severe and aggravated by attempts at movement. Manipulation will localize the pain to the seat of fracture.

5. Crepitus.

6. Laceration of gum tissue may be noted.

7. Swelling.

8. Salvation and fetor oris.

9. Paresthesia may be present due to severing or injuring of the inferior dental nerve.

10. X-ray.

Fractures of the maxilla are less common than those of the mandible. They are often associated with extensive head injuries. Owing to the absence of powerful muscles of attachment to the maxilla displacement of fragments is not due to muscular pull but to the direction of the traumatising force and sometimes due to gravity. These fractures may vary from very small alveolar fractures to very severe complex middle third fractures. All fractures of the maxilla exhibit a dull note upon percussing the teeth. Severe fractures of the maxilla are always accompanied in the early stages by considerable edema. Where the upper jaw is loose and mobile no difficulty is evolved in diagnosis; but where the maxilla is impacted derangement of the occlusion is the cardinal sign.

Such cases may exhibit diplopia due to displacement of the orbital floor, flattening of the face (dish face deformity) widening of the face due to displacement of the malar, drooping of the lower eyelid due to downward displacement of the orbital floor.

One stands behind the patient the face is viewed from above and the bony outlines inspected and palpated. The rims of the orbits, infraorbital canal, fronto malar suture, zygomatic arch and malar bones are all palpated to detect displacements and step fractures.

Crush fractures of the middle third of the face are divided into two groups (a) Central—Confined to nasal complex, nasal bones and maxillary processes this being 1st degree. 2nd degree the entire

\*Presented at the Annual Meeting of the Manitoba Medical Association, Winnipeg, October 9th, 1952.

central portion of the middle third involving the orbital floor, the malar maxillary articulation and maxillary tubercles. It may be associated with a transverse alveolar fracture (Guerans fracture) in which case the tooth bearing segment is separated from the maxillary superstructure and may be very loose, this is called a floater.

(b) Lateral—This involves fracture and displacement of the malar zygomatic complex and varies in degrees depending as to whether the orbital, nasal and dental portions are involved.

The treatment of fractures of the mandible as in fractures of any other bone consists in reduction of the fragments to as nearly the normal position as possible and fixation until union occurs, i.e., early immobilization in functional position until united by bone. Teeth whose roots are exposed in the line of fracture or which have been markedly loosened should generally be removed provided this can be done without too much traumatization, because such teeth usually give rise to infection sooner or later. In certain cases it may be advisable to retain such a tooth for a time, particularly to a fracture just in front of a last molar tooth, where loss of a tooth would mean upward displacement of the posterior fragment. Bone fragments having any attachments to soft tissue should be allowed to remain as they frequently keep their vitality and aid in restoring continuity of bone. It is much wiser to leave a bone fragment of doubtful vitality removing it later in case of necrosis than to perform a radical debridement. When a fracture shows signs of suppuration through and through drainage should be established at once. Foreign bodies of any description between the fracture surfaces will delay and prevent healing and should be removed.

Before application of the fixation all diseased and useless tooth roots and tartar should be removed. To ensure good function it is necessary as a general rule to immobilize the fractured fragments in a position of normal occlusion against the opposing jaw. Immobilization should be early as this permits healing to start at once, minimizes the spread of infection into the fracture and thus hastens the treatment. Intermaxillary fixation sometimes must be delayed when its application would cause interference with respiration.

In mandibular fractures the reduction and fixation may be carried out by local anaesthetic giving two mandibular blocks with suitable pre-medication or by general anaesthetic.

#### Method of Fixation

(a) Head bandages, e.g., Barton bandages, chin supports, etc., at best now are justified for emergency treatment only, until such time as proper fixation can be carried out.

(b) Wiring methods, using stainless steel 28 gauge wire, this prepared into Ivy eyelets and

intramaxillary and intermaxillary wiring carried out. This wire is also used for direct bone wiring. The mandible is wired to the maxilla into proper occlusion, it may be necessary in some cases to use arch wires to reduce the mandible or maxilla into its proper alignment. There are many variations in wiring. Ivy eyelets being the most popular. Riscons twisted wire technic should also be mentioned. The greatest advantage in this type of fixation being that a minimum of apparatus is necessary and early fixation can be achieved under adverse conditions.

(c) Sectional Cast metal cap splints, this method was introduced by the English during the last war. This is a most excellent method of immobilization probably the finest method we have to date. However the disadvantages being that a properly trained dental mechanical laboratory is necessary. The operator must have dental training, or a combined team, medical and dental personnel is necessary.

(d) Roger Anderson pins. This method has advantages for certain types of fractures, it undoubtedly gives good control of the edentulous posterior fragment. The appliance is ready for use and does not need a mechanical laboratory for its construction.

(e) Plaster headcaps and external rods. These are required for certain maxillary fractures—e.g., floaters. Numerous attachments are constructed to fit each individual case.

(f) Edentulous mandible. No teeth are present. One may use one of the following methods:

1. Direct bone wiring.
2. Circumferential wiring—over a lower acrylic splint fixed across the fracture by wires passing around the body of the mandible in the soft tissues.
3. Roger Anderson pins.
4. Gunning splints—or false dentures.

In reducing middle third fractures one must observe the following manipulations:

1. Disimpact and advance the central middle third block and then reduce the open bite deformity using a Lion forceps.

2. Advance the upper segment and nasal complex use an Ashe nasal septum forceps, the septum is ironed out. The nasal bones are reduced with a Walsham left and right forceps, the bones are disimpacted and moulded into correct alignment. This is maintained by a nasal splint.

3. The lateral middle third fractures, the malar and zygomatic arch may be reduced by a few methods:

1. Using Gilles approach through an incision in the hair line passing behind the Temporal fascia and engaging the zygomatic arch with a lever, the displaced malar is elevated in place.

2. A large towel clamp may be used. The malar bone being engaged directly at its superior

and inferior surfaces through the skin and elevated.

3. An open approach may be necessary when one is unable to disimpact or maintain alignment thus requiring bone wiring and or attachment to head caps.

Fixation should be maintained from six to eight weeks.

Feeding is no problem, in fact many such patients put on weight during their period of fixation. Food should be presented in a manner calculated to whet the patient's appetite. Most patients do not have a full complement of teeth and fluids can be sucked through a tube through such spaces. Semi solid foods can be pushed through such openings or through the retromolar areas. They should have frequent feeds, be on high calorie, vitamin and roughage diet. The patient must be taught proper mouth hygiene, the cleansing of wires, splints and teeth. One of the finest detergents being a 4% soda bicarbonate solution.

It is a cardinal error to suture soft tissues over unreduced fractures. The disimpaction, replacement and fixation of bones take precedence over other considerations. Only after bony injury has been satisfactorily treated should surgery to the soft tissues be desired.

Undoubtedly every practitioner is called upon at various times to render service to a patient who has suffered facial injury. The avoidance of permanent facial disfigurement or serious functional disturbance is often dependent upon adequate primary suture of such injuries. Hemorrhage should be arrested by clamping or if in the nasomaxillary region, nasal or post nasal packing may be necessary. Shock is treated by the usual methods. In injuries of the lower jaw danger of asphyxia may be present, this is averted by protraction of the tongue and by placing the patient in an upright position with the head flexed forward. Suction may be necessary.

Lacerations of the eyelid may result in exposure of the eyeball. The lid should be sutured as soon

as possible to protect the eyeball. Tarsorrhaphy is a simple procedure. At a later date plastic repair may be necessary. The period after injury during which primary suture is permissible depends on the type of injury and judgment of the surgeon. Five to six hours after accident as a rule is permissible for primary suture. However clean cut lacerations may be sutured 24 hours after injury. In contused, crushed, and mangled tissue primary suture should be performed during the first few hours after the debrided tissue has been excised. For late primary suture it is advisable to wait until edema has subsided and infection is controlled.

Blood vessels as a rule are clamped and this suffices, it may be necessary to ligature. Blood clots are removed, tissue which appears devitalized removed, irregular and ragged skin edges excised. Because of the rich blood supply more sparing excisions are used. Fine subcutaneous or subcuticular sutures are used to eliminate dead space and approximate the base of the dermis. Undermining of the skin may be necessary to approximate the skin edges without undue tension. Buried sutures are inverted and knots are buried in the depths of the tissue. Fine interrupted silk suture or dermalon 5.0 are placed to avoid inversion and should be numerous enough to ensure opposition. Gelinet and pressure dressings are used. The sutures should be removed in three to five days.

Experience has shown that badly infected and contused facial wounds can be prepared for suturing in from two to ten days. Gravel burns with small particles of dirt can be eliminated in the first 24 hours by scooping and sanding. When small amount of tissue has been lost suturing is done after skin has been undermined. Occasionally small rotation or transposition flaps may be necessary. When the defect is too large a split skin graft dressing is used and at a later date plastic repair carried out. In full thickness loss of cheek tissue if closure is impossible the edge of the mucosa should be sutured to the skin edge acrylic moulds made and placed to prevent contraction and plastic repair carried out.

## Gynaecology

### The Physiology of Reproduction The Endocrine Glands and Their Secretions

From the Faculty of Post-Graduate Studies of the Winnipeg  
General Hospital in the Department of Obstetrics and  
Gynaecology.

#### Section "B" No. 9

#### "Discuss the Significance of the Pelvic Floor, the Pelvic Fascia, and the Perineum, in Labour and Prolapse"

J. C. McCawley, M.D.

The anatomy of the pelvic floor, the pelvic fascia and the perineum was well described in a previous conference and a brief review of these structures can be quickly grasped by referring to "A Textbook of Gynecology by Curtis or "The Principles and Practice of Obstetrics," by DeLee and Greenhill. Reference to the lucid text and the excellent diagram can give one a clear mental picture of the structural details of the components of the pelvic floor. From this point the components of the pelvic floor will be considered as a structural whole, functioning as a unit. The structures comprising this unit are perforated by three tubular organs which become cavities when full, and only narrow slits when empty. These three structures are the vagina, the rectum and the urethra. The latter does not vary in size, and is too small in diameter to compare with the vagina and rectum. These structures are enclosed by the pelvic floor where they pass through it, and the action of the pelvic muscles keep the tubes closed. The pelvic floor is composed of smooth and striated muscle, fascia, connective tissue, and elastic tissue, all of which are intermingled to some extent, and work together to form a fascio-muscular diaphragm which supports the pelvic viscera, on top of which rest the abdominal viscera.

The pelvic floor can be divided into some of its components:

1. Endopelvic fascia and its various manifestations including its thickenings to form the fascial supports attached to the cervix.
2. The pelvic diaphragm or levatores ani muscles.
3. The urogenital diaphragm.
4. The sphincteric group of muscles at the pelvic outlet.

#### The Endopelvic Fascia

The endopelvic fascia has a versatile architectural function in the pelvis. In places it becomes thickened to form strong fascial supports, the so-called supporting ligaments; in other places, it is soft and loose and acts as packing tissue, surround-

ing the pelvic organs. It could be imagined, if one took a pelvis, put all the muscles and organs in place, then poured over them a rubbery liquid cement which filled up all the empty spaces and then became firm and adherent to most things that it touched. This is the endopelvic fascia. Superiorly, it spans the pelvis transversely from the white line of the levator on one side to the white line of the levator on the other side and it is slung antero-posteriorly from the symphysis pubis in front, to the sacrum behind. It covers the levatores ani muscles and its continuity is broken only by the passage of the three tubular structures previously mentioned. At the cervix it condenses and thickens to form the ligaments of the cervix (Figs. 1 and 2) which are the chief supporting structures of the uterus. These ligaments are mainly condensations of the endopelvic

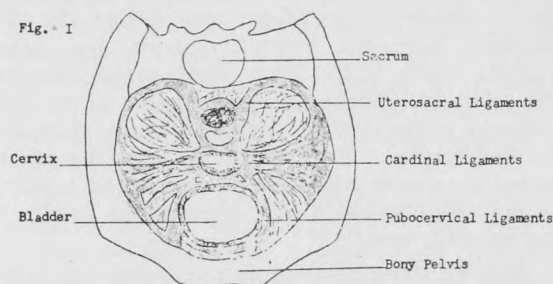


Fig. 1  
Fig. 1 — Schematic Representation of the Supporting  
Ligaments of the Cervix by the Endopelvic Fascia.

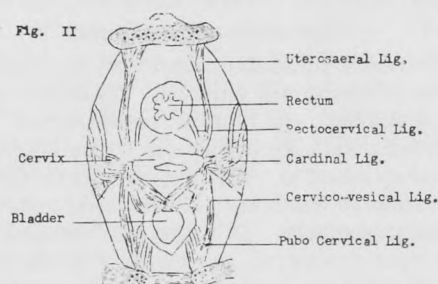


Fig. 2

fascia, but they contain as well elastic tissue and smooth muscle fibres, which are important because they give elasticity and tone to these so called ligaments. Power states that these structures (elastic tissue and smooth muscle) have the power of maintaining (up to a point), the tone and elasticity of the cervical ligaments following stretch. If they are stretched beyond a given point, they lose this power. During parturition, traction from below and force from above would cause irreversible elongation of fascia alone, but the addition of elastic tissue gives the ligaments the ability to regain their normal length and shape.

As stated, this rule holds only to a certain degree; if the limit of stretch and elasticity are exceeded, the supporting structures become limp and lifeless and lose their function. The main supporting ligaments in the pelvis that apply to the preceding description are seen in figures 1 and 2, and are the cardinal, the utero-sacral and the pubo-cervical ligaments.

Power describes the endopelvic fascia as a diaphragm stretching across the pelvis which can be divided into three segments:

1. Anterior.
2. Laterals.
3. Posterior.

The anterior segment forms a platform underneath the bladder attached to the symphysis pubis in front, to the white lines of the levatores laterally, and to the supravaginal cervix and the cardinal ligaments posteriorly. It contains in its substance the pubocervical ligaments and is traversed by the vagina. The lateral segments of this endopelvic diaphragm are formed by the cardinal ligaments extending from the supra vaginal cervix to the white lines of the levatores ani laterally. The posterior segment is the area posterior to the cardinal ligaments and is traversed by the rectum. It thickens to form the utero-sacral ligaments and some of it extends caudally as the rectovaginal fascia, terminating finally in the perineal body.

Besides those portions of the endopelvic fascia already mentioned, one must imagine loose fluffy portions of it throughout the pelvis acting as a packing tissue to the pelvic organs.

### The Pelvic Diaphragm

This heavy muscular diaphragm is composed of the two levatores ani muscles. These two muscles form a barrier which must be traversed by the foetal head during parturition. This fleshy hammock is attached to the pubic symphysis anteriorly to the sides of the bony pelvis laterally and to the sacrum posteriorly. It forms a V shaped gutter which runs downward and forward. In the midline, some of the fibres decussate, and are inserted into the perineal body and the raphe; others cross the midline and continue to the other side to act as a sling, surrounding the vagina and the rectum. The pubococcygeus forms a horseshoe shaped sling from the symphysis pubis going back around the vagina and also the angle of the rectum and gives off fibres to the perineal body. Contraction of this muscle causes closure of the vaginal canal and increases the angulation of the rectum.

### The Urogenital Diaphragm

This structure is triangular shaped, relatively inelastic, situated in the sub pubic angle (Fig 3). It has two fascial layers: a cranial one which is attached to the levatores ani and a caudal one

which is attached to the superficial vulvar musculature. It is important in parturition because it is perforated by the vagina and must be traversed by the foetal head in parturition.

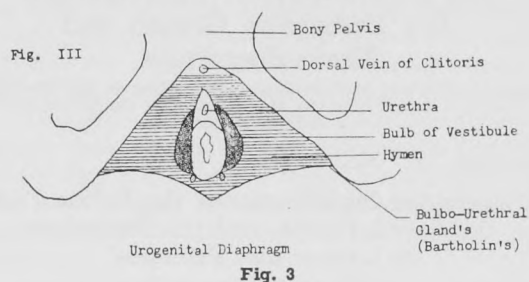


Fig. 3

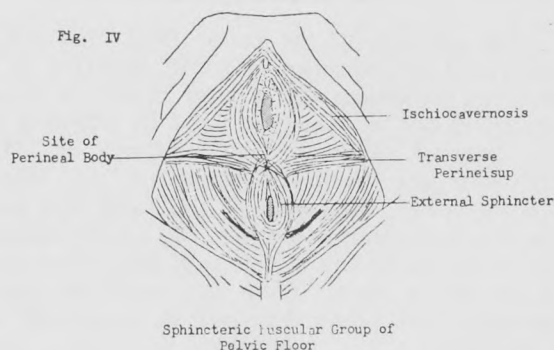


Fig. 4

### Sphincteric Group of Muscles (Fig. 4)

These are the muscles at the vaginal and rectal outlets. While they play little part in actually supporting the pelvic structures, they are important in parturition because of the frequency with which they become damaged. With this group of muscles will also be included the perineal body although it is not a sphincter and it goes much deeper. The perineal body is made up of fibromuscular tissue and is situated in the midline where it acts as an anchoring support for many of the pelvic muscles. The muscles which blend at this central point includes: sphincter ani externus, levatores ani, transversus perinei, bulbo-cavernosus and recto-urethralis. Unexpected damage to the sphincter group and/or perineal body at confinement gives rise to a gaping introitus. Contraction of the muscle fibres contributing to the body causes marked shortening because of the laxity of this central anchoring point.

All the above structures, the endopelvic fascia, the pelvic diaphragm, the urogenital diaphragm, and the sphincteric group of muscles must in the order named accommodate the passage of the baby in parturition.

### Labour

In considering the part played in labour by the supporting structures of the pelvis, the natural question arises: How can these structures remain stable enough to support their incumbent load of viscera and at the same time become mobile

enough to accommodate the passage of a full term foetus? In other words, how can two such widely diversified functions be maintained at the same time without causing loss of integrity of one or the other? In most women these two functions are successfully carried out, but occasionally rigidity of the soft tissues will not allow normal passage of the foetus, and frequently damage occurs during parturition to these supporting structures causing a decrease in effectiveness of their supporting action.

First, the events that occur to the pelvic floor during labour will be considered. First, the cervix becomes fully dilated. As the foetal head begins to descend through the dilated cervix, aided by uterine contractions, the opening of the cervix becomes flush with the walls of the vagina so that a continuous birth canal from uterus to vulva is formed. This roughly resembles the elbow of a stove pipe, (Fig. 5), with a 90 degree curve in it.

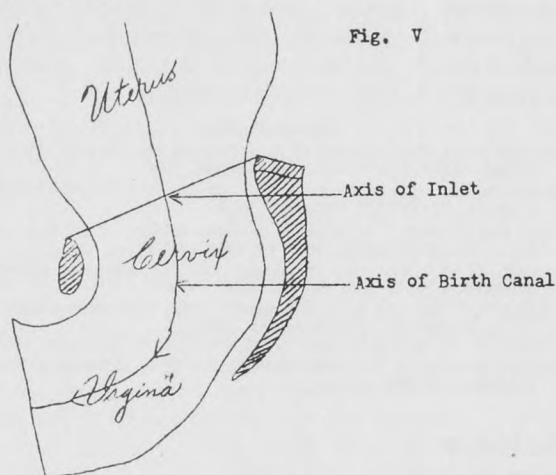


Fig. 5

Dilatation of the cervix shortens the spoke-like ligaments around it in a transverse direction, but, as the baby descends, the cervix becomes lower in the pelvis and these ligaments are lengthened caudally. As the foetal head descends still further, it first of all touches the sacral segment of the pelvic floor which slopes down and forward like a gutter. Because the muscles are struck by the head they contract with a rebound causing that portion of the presenting part to rotate anteriorly. In an occiput anterior position, for example, the occiput rotates to the front and slides down the gutter of the levatores with the sagittal suture in the antero-posterior position. As the head slides downward and forward in the trough of the levators, the next structure through which it must pass is the urogenital septum. Because of its inelastic fibrous nature, it is easily torn, but infrequently a permanent injury results to this structure alone. As the head progresses further,

it reaches the pelvic outlet and at this point the introitus opens and the perineum bulges and crowning occurs. It is here that many injuries occur that are preventable, either by a timely episiotomy, and at least by careful repair of any recognizable injuries. A ragged tear in the levatores may have no surface manifestations. Tears may travel through the superficial sphincter group of muscles, causing a third degree laceration or damage to the perineal body, which unless recognized and reconstituted, will result in permanent gaping of the introitus.

As the head is crowned by the perineum, the birth canal is wide open from the fundus of the uterus to the exterior. Both segments of the uterus, the cervix, the vagina and the introitus are widely open to form the right-angled stove-pipe-like birth canal. When the baby and the placenta have finally passed through the four successive levels of the pelvic floor, and no damage has occurred, or any damage that has occurred has been adequately repaired, the inherent tone and elasticity allow these structures to regain their ante partum shape. However, if they are stretched beyond their limit, or lacerated in the process of parturition, without adequate repair, the result is permanent relaxation of the uterine supports and those of the introitus.

Hart and Barbour divided the pelvic floor into a pubic and a sacral segment. The two are divided by the vagina. During labour they stated that the contracting uterus pulls up on the pubic segment, raising it, and the descent of the baby's head depresses the sacral segment. Thus the pelvis acts in the manner of two swinging doors to allow passage of foetus and placenta. This work is quoted by many modern text books, but recent work, particularly by Malpas and Jeffcoate, prove conclusively that the bladder is not elevated during labour and it is extremely doubtful if the pubic segment is raised at all.

Permanent damage to the birth canal during labour can be prevented by observance of the following dictums

1. Proper use of forceps—Application of forceps and traction from below before the cervix is fully dilated, must be condemned.
2. In expressing the placenta, brute force is not necessary. Indeed, recently, some authors are advocating expression of the placenta without downward pressure on the uterus.
3. Avoid precipitate deliveries—Pelvic relaxation is far more frequently a sequel of the precipitate labour than the prolonged labour (if the latter is conducted judiciously).
4. Wise use of the episiotomy—Better to have a visible incision than an unseen laceration that is left to its own resources for repair.
5. Careful repair of episiotomies and lacerations.

### Prolapse

Prolapse has been defined as the falling down of an organ or part. Although prolapse is usually thought of as uterine prolapse, other pelvic structures may be involved, without or without a prolapsus uteri. This is particularly true of the bladder and the rectum. Although a cystocele and a rectocele may or may not have an associated uterine prolapse, the converse is not true. Prolapsus uteri is invariably accompanied by cystocele, and frequently with rectocele.

The most frequent cause of prolapsus uteri is damage to the pelvic supporting structures during parturition. The uterus is maintained in place by its pelvic ligaments, and by its anteverted position so that the weight of the abdominal viscera resting on top of the anteverted uterus, tend to keep it in its forward position. Since the axis of the uterus, during anteversion, is at right angles to the axis of the birth canal, increase in intra-abdominal pressure, instead of tending to force the uterus down through the vagina, increases its ante-version, and tends to prevent this occurrence. Another factor in prolapse is the type of pelvic supporting tissues in each individual. Every gynecologist has noticed that some patients have strong, thick, layers of pelvic fascia, and well-defined pelvic ligaments, while others have thin, weak, tissues incapable of doing a good job of support. Another factor that may play a role in prolapse is the age of the patient. One frequently sees women with procidentia that has appeared post-menopausally. Nulliparous females who develop prolapse are usually past the menopause. The explanation given for this phenomenon is

that following the menopause, senile changes occur in the pelvic supporting structures, just as in other parts of the body. Briefly then, the factors thought to be causative in prolapse are:

1. Injuries during parturition.
2. Retroversion.
3. Weak pelvic supports.
4. Age of individual.
5. Increased intra-abdominal pressure — e.g., coughing.

Once the pelvic supports become lax, the uterus descends down into the vagina. This tends to undo uterine anteversion that may be present and the uterus and the vagina tend to form a straight line. Straining or coughing forces the uterus further into the vagina and the supporting structures become even more stretched. During this process the cervix becomes congested and hypertrophies markedly and acts as a piston in the vagina; further adding to the series of events that have already occurred. Finally a complete prolapse or procidentia is present, and with it, nearly always a cystocele or rectocele. This description of prolapse helps to explain why it is a slow, gradual process rather than a sudden development.

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## Anaesthesiology

### Abstracts

**The Treatment of Post-Spinal Headache With Intravenous Ethanol**, by E. V. Deutsch, M.D. *Anaesthesiology*, 1952, 13 Sept., 496.

The most accepted theory of post-spinal headache is that, following the lumbar puncture, there is a deficit of cerebrospinal fluid. In other words, there is more fluid lost through a persisting hole in the dura, than there is manufactured by the choroid plexus.

"If dilatation of the choroid plexus can be produced, and simultaneously a relatively hypotonic solution is made available, an increase in formation of the cerebrospinal fluid should result to compensate for its loss through the hole in the arachnoid.

With this in mind, it was decided to administer intravenously a solution of 5% ethanol in 5% glucose in distilled water for the treatment of post-spinal headache, the rationale being that the

alcohol would dilate the vessels of the choroid plexus, and the glucose would be rapidly metabolized, and the distilled water would go into the formation of cerebrospinal fluid."

The author presents a series of 15 cases with such encouraging results that I feel its further use is warranted. As soon as the diagnosis of post spinal headache was made the patient was given one litre of 5% ethanol (ethyl alcohol) in 5% glucose in distilled water. Ten cases had complete relief following the one bottle. Four others had complete relief following the administration of a second bottle on the following day.

M. Minuck, M.D.

**Epidural Analgesia in the Treatment of Hypertension Due to Toxaemia of Pregnancy**, Gordon Ostlere, M.A., M.B., D.A. *Anaesthesia*, 7 July, 1952, 169.

"High Blood pressure is only one of the manifestations of Toxemia of pregnancy, and is a con-

venient index for measuring the severity of the condition: yet often only those who respond with the striking sign of convulsions receive treatment to lower it. The rising pressure may lead to cerebral hemorrhage, heart failure, pulmonary oedema, cortical necrosis of the kidney, or associated injury to the placenta that may produce accidental hemorrhage and premature separation.

The rise in blood pressure is probably due to generalized arteriolar spasm, caused mainly by disturbance of kidney function. This relationship between structural change in the kidney and rise in blood pressure was established by Bright over 100 years ago.

Any mechanism which impedes the blood flow through the kidneys raises the systemic pressure, both reflexly and by keeping in the circulation the large volume of blood which normally passes through them. Localized arteriolar contractions and vascular shunts within the kidneys can be effected by stimulating Cort's "area 13" of the cerebral cortex or any large sensory nerve, and abolished by cutting the lesser splanchnic nerve. Possibly, pressure of the distended uterus on the ureters, in a patient with a labile sympathetic nervous system, might result in spasm of the renal arterioles and a generalized rise in blood pressure.

#### Treatment

Continuous epidural analgesia appears to be a very satisfactory method of reducing the high blood pressure of toxæmia of pregnancy. The author reports on the treatment of four patients with toxæmia of pregnancy with rapid improvement of the patients' condition. Even if the patient has been having fits she awakes after a few minutes sleep as if from natural sleep. There is an early rise in the secretion of urine and a reduction in edema that may have been present.

The author further mentions a series of cases treated by Hingson. The latter has treated 76 cases of eclampsia in this way (by continuous epidural analgesia), with three deaths and a foetal mortality rate of 12%.

Continuous analgesia maintained for several days introduces the hazard of snapping of the

polyethelene tubing. Should this accident occur an incision should be made under local anaesthesia and the tubing removed. If the broken end is deep to the fascia then it may be left.

M. Minuck, M.D.

**Infusions Via the Bone Marrow and Biopsy of the Bone and Bone Marrow**, by Lt.-Col. A. B. Tarrow, H. Turkel and Col. M. S. Thompson. *Anaesthesiology*, 13 Sept., 1952, 501.

The bone marrow route for the administration of drugs, "intravenous fluids" such as glucose, plasma, or blood is not thought of frequently. Under certain circumstances it becomes the only available entry into the general circulation, except for intra-arterial injection. These special indications are:

1. Veins too small, as in children.
2. Veins are collapsed, as in shock.
3. Veins are obliterated as in extensive burns or are covered by voluminous bandages.
4. Veins are all used up by virtue of frequent injections.
5. Insufficient time for a cut-down.
6. Continuous infusions are contemplated.

The author describes the type of needle that is best suited for this type of injection (Turkel Needle) which is a trephine and needle set. The sites which may be used are, the body of the sternum, manubrium sterni, upper end of tibia, or lower end of femur, this is the preferred site in children under 5 years of age, and the iliac crest.

Complications and difficulties are as follows:

1. Penetration of needle into the mediastinum.
2. Osteomyelitis and/or local abscess.
3. Leakage around needle into the subcutaneous tissues.
4. Positive pressure is required for blood, and some form of light anaesthesia may have to be used as this tends to be painful.
5. Great care must be taken to preclude the entry of bits of bone marrow and bubbles of air. In the long bones particularly there is direct communication between the bone marrow and large nutrient veins.

M. Minuck.

## Around the Hospitals

### Victoria Hospital

#### "The Recognition of Brain Tumor"

Dr. Dwight Parkinson

The topic discussed at the February meeting was "The Recognition of Brain Tumor" and the speaker was Dr. Dwight Parkinson.

It was a model presentation, clear, concise, to the point and pleasingly delivered. The subject is one that is easily made difficult. But Dr. Parkinson realized that his audience was made up chiefly of general practitioners and what he said was capable of personal application by all of them.

Dr. Parkinson began with an historical introduction (which I shall, with his permission, amplify). I should imagine that attacks upon the skull were among the earliest of operations. Many skulls of men, women and children, and dating back to neolithic times (which is at least 10,000 years ago) have been found with trephine holes in them. We have no means of determining the pathological processes for which these craniotomies were done but it is quite certain that most often headache was the symptom and equally likely that in some cases tumor was present.

These operations, whatever may have been their clinical success, were not always fatal despite the absence of modern instruments, anaesthetics and antibiotics. Some skulls show two, three and even five openings.

Trephining was thus common in neolithic times, and was, until recently, practiced by various uncivilized tribes. Yet there is but a solitary example among the host of mummies disinterred in Egypt, and no record of the practice having been followed by the Greeks or Romans.

Many have contributed to make neurosurgery safe. Cerebral localization was possible only after the work of Hughlings Jackson and Ferrier. The first surgeon to attack a localized tumor was Rickman Godlee, who was persuaded to operate by Hughes Bennet who was the first clinician to identify the site of an intracranial new growth. This was in 1884. Two years later Sir Victor Horsley began his career as a surgeon and, in the words of Bucey, "His first year was to furnish the auspicious beginning of ten operations with but one death."

As additional knowledge was placed at their disposal more and more surgeons attempted the removal of tumors within the skull. Among them was McBurney, who however, found the soft-walled abdomen more inviting and rewarding. One of the greatest of the earlier neurosurgeons was Harvey Cushing. Now, thanks to the effort of scientists in every branch, tumors can be localized

much more exactly than ever before and successful removal is frequent.

But the mastery of technical difficulties, important as it is, is much less important than early diagnosis, and that lies in the hands of those whom the patients first consult. What guidance can be given to practitioners so that they may make that crucial early diagnosis?

A most important symptom is headache. Perhaps not all patients suffer from headache, and certainly not every patient who complains of headache is suffering from brain tumor. But one should be highly suspicious of a persisting pain that has no obvious cause.

The headache has certain positive characteristics. It is worst in the morning. It persists. It is general rather than local. At first it is paroxysmal, short in duration and mild in severity. In time both duration and severity increase. Coughing, straining and other actions that increase intracranial pressure aggravate the pain.

There are negative characteristics also. The site of pain has no localizing value. The pain in tumor does not depend upon, nor is it influenced by, emotional states or such factors as noise, light or such stimuli.

Fits take only second place to headache in importance. Convulsions appearing for the first time in middle life are highly suspicious. They may not differ from epileptic seizures but often they betray their significance by their "march" from a part of a limb to general involvement. They may be sensory as well as motor. The attacks may be a mere slight, transitory loss of awareness, a feeling of being dazed.

Akin to fits are hallucinations of any sense. These are seldom mentioned spontaneously because so often the patient, conscious of their unreality, fears that they are evidence of departing reason. Yet on questioning he may admit to seeing, hearing, smelling or tasting things which he knows do not exist.

Personality changes are common and are often misinterpreted. Neurosis, psychoneurosis or even psychosis may be diagnosed. Such changes in behaviour are especially common when the frontal lobe is involved. But, as they are associated with increased intracranial pressure, these changes suggest the presence, rather than indicate the site, of a growth.

Vomiting when it occurs indicates a degree of intracranial pressure and is not characteristic. Projectile vomiting merely means an active mechanism and powerful muscles, and therefore is more likely to be seen in young, vigorous

patients than in those who have been worn down by pain.

These cardinal symptoms were stressed by Dr. Parkinson. None of them is pathognomonic of tumor but all should rouse suspicion.

And, when suspicion has been raised, the next procedure is examination, especially of the fundi. A neurological examination should be as integral a part of every investigation as is the examination of the heart. It is perfectly possible to go, area by area, from the frontal lobe to the nerve terminals in an orderly and systematic manner and to do it with both speed and accuracy.

The examination may reveal organic damage or it may not. The fundi are of special importance but no part can be safely neglected. The findings should be recorded carefully. Moreover the examination should be repeated. Too often the results of a single investigation are accepted as final. This is especially true of mechanical investigation. Signs can change. On the other hand evidence of value in localization may be slow in appearing.

Dr. Parkinson had a word to say regarding spinal puncture. Little, he said, was to be gained from this procedure and in no case where tumor is suspected, should Queckenstedt's maneuver be attempted because it may lead to disaster.

Too much depends upon early diagnosis for one to wait for evidence to appear spontaneously. Therefore x-rays and air studies should not be postponed until the diagnosis makes itself. By then the damage may be so extensive that operation may merely prevent immediate death and for it substitute an existence in which functions are irretrievably lost and faculties irremediably impaired.

Dr. Parkinson urged that stereoscopic films be made in both antero-posterior and lateral positions. Air encephalograms may be of crucial value. Arteriography has advantages and, at times, is the technique of choice.

A number of interesting and instructive slides were shown. In some the nature of the ailment and even its site were obvious in the features of the patients.

The presentation was an excellent one. Its purpose was primarily to arouse in the audience that lively suspicion which so often leads to diagnosis. Persistent, increasing headache not due to an obvious cause; fits when there have been none before, changes in personality and in behaviour—those are the most significant symptoms because they are all so common and so likely to be misinterpreted unless one bears in mind that they may be the early evidences of a process, at that time capable of arrest, but soon to be hopelessly beyond control.

## Grace Hospital

### Neonatal Haemorrhage

Dr. M. Berger reviewed the conditions that lead to dangerous bleeding in the new-born. What he said on the subject will be published in the May Review. As in matters obstetrical I am only an innocent bystander, on the points that impressed me most were the dramatic ones. I do not know what may be the incidence of neonatal bleeding but I came to the conclusion that it could be reduced to almost nothing by the simplest procedures. For example if the woman in labour be given injections of vitamin K her off-spring can be protected against a dangerous fall in prothrombin. And when the first feedings are diluted cow's milk, melenas and such like evidences of bleeding do not occur.

### Myotonia Atrophica

Dr. R. T. Ross spoke about an example of this peculiar disorder. There was first of all a philological introduction by Dr. Coke who discussed the 'appropriateness or otherwise of the various synonyms—dystrophia myotonica, myotonic dystrophy and myotonia atrophica, the latter designation being, on the whole, regarded with most favour.

It is a malady which in every way merits the adjective "interesting" for it presents peculiar phenomena, is not often seen, is not understood and is beyond treatment. It is, however, so striking in its manifestations that the diagnosis can scarcely be missed if the condition be kept in mind.

The patient discussed was a man of 50 who entered hospital gravely ill from bronchopneumonia. He was too sick to give much of a history but spoke of having had muscular weakness for some years. One of his brothers had been similarly weak but was now dead. There was mention, quite irrelevant it would seem, of abortions in the mother and aunts. How knowledge of these intimate domestic incidents came into the patient's possession and whether or not they were acts of God, deponent knoweth not.

In addition to the changes in the lungs certain other abnormalities were observed notably muscle wasting of unusual distribution and a hair-line that was remarkably high. Dr. Ross was asked to see the patient and recognized the older ailment as dystrophia myotonica. For this nothing was indicated or could be done. The pneumonic process proved resistant to treatment and from it he died. The patient was represented at the meeting by a piece of abnormal muscle and a slice of atrophic testis. Therein, however, lay the essence of the disease.

Myotonic dystrophy is characterized by two sets of phenomena—muscular and extra-muscular.

First to appear is a widespread myotonia. Contracted muscles relax with abnormal slowness. The fist remains a fist; the hand-clasp persists; the smile lingers. This myotonia varies in the site of its appearance, and also from time to time in the muscles involved in any patient. Myotonia persists until atrophy is established. This abnormal continuance of contraction links the disorder with myotonia congenita (Thomsen's Disease) of which it was at one time considered to be a variant.

Atrophy affects particularly the muscles of the face, the sterno-mastoids, the muscles of the hand and arm, and usually the anterior tibial groups of muscles in the legs. The appearance is striking. Thin muscles slightly clothe the skull. The head, poorly supported on a swan-like neck, acquires a peering salience. The face is rendered still more remarkable by a distinctive alopecia which bares the temples and elevates a straightened hair line.

Loss of hair is one of three extra-muscular components of the syndrome. The other two being testicular atrophy and cataract. Baldness over the front of the scalp is usual but hair loss may be extensive—a feature more noticeable in men. It is regarded as being due to thyroid disturbance

as are the subjective coldness, the sluggishness and the bradycardia which are of usual occurrence.

Testicular atrophy is responsible for impotence; but as the disorder usually shows itself in the thirties, early marriages may be fruitful. Indeed, in this manner is the malady perpetuated.

Cataract is usually but not invariably present and it may be present but undetected. It would appear that there are two affections, both hereditary, and at times combined with one or other predominating. Thus cataract may occur with minimal muscular involvement and vice versa. Or there may be a series of generations in which cataract is present and then the appearance in one generation of the dystrophy.

The site of lesion is surmised to be the myoneural junction because the myotonia is increased by acetylcholine and prostigmine and relieved by quinine. But no treatment is effective against the disease. There are similarities with other myotonias and dystrophies but the late onset and the special involvement of the sternomastoids together with the endocrine and ocular abnormalities distinguish dystrophic or atrophic myotonia from all other conditions.

### Fugitive Pieces

J. C. Hossack, M.D., C.M. (Man.), Editor

#### Mephibosheth Was Lame of His Feet

Mephibosheth, we learn from the Scriptures, was "lame of his feet" but I am far from convinced that the lameness was due to polio. I have seen it stated that such was the case, the latest time being in an article in the first number of this year's "University of Manitoba Medical Students' Journal." In the same article there is reference to the Iliad with the suggestion that Vulcan also was a polio patient. I don't believe that either.

To be sure, scarcely anything is of less importance than whether or not Mephibosheth and Vulcan or either of them had suffered from infantile paralysis. I would not trouble about the matter were it not in the interests of Truth which, being mighty will, of course, prevail; but she needs a helping hand now and then and here is the helping hand.

Now let us, first of all, consider the case of Mephibosheth who, as you know (or jolly well ought to), was the son of Jonathan and therefore the grandson of King Saul. During the unpleasantness which had developed between Saul and David, the head of Mephibosheth's uncle arrived minus its body, an event which sent Mephibosheth's nurse scurrying back to his father and her master. In the words of the Scripture

"and his nurse took him up and fled: and it came to pass, as she made haste to flee, he fell and became lame." He was five years old at the time; but against a poor argument for polio (his youth and lameness) is a clear story of trauma.

This happened about the year 1032 B.C. in which year David ascended the throne. But two hundred years earlier there dwelt in Egypt an official of the court called Roma. Being a person of importance he left his monuments, among them a stele which shows him to have had a withered leg, the withering being almost positively that of polio. Therefore it is likely that polio has an even more honourable antiquity than Mephibosheth could give it.

Until I read the article which has inspired these remarks, I had never come across the association of polio with Vulcan. Nor can I see how the association could ever have been arrived at except by a false syllogism—polio victims are lame, Vulcan was lame, therefore Vulcan had polio.

Why was Vulcan lame? Your answer will depend upon which poet you believe and which translation you prefer. In Pope's translation of the Iliad we read:

"When my proud mother hurled me from the sky—  
"My awkward form, it seems, displeased her eye—"

This might mean anything, but the Earl of Derby is more specific:

"When by my mother's act from Heaven I fell,  
"Who, for that I was crippled in my feet,  
"Deemed it no shame to hide me."

This suggests that Vulcan had club feet, although ejection from heaven would seem a rather harsh punishment for so innocent an offender. Very likely there was more in this than met the eye, therefore, in proper psychosomatic fashion, let us glance at Vulcan's birth and upbringing.

Domestic felicity was not one of the blessings enjoyed by Jupiter. Quarrels were far from infrequent in his celestial household. In part his own behaviour was to blame for this, for his infidelities were notorious. He was not without excuse, however, because he wanted offspring and Juno was sterile. One story goes that it was in one of those domestic spats that Vulcan was injured. He dared to stick up for his mother and Jupiter, grabbing the little freak by one of his legs, hurled him into space.

Now, as I have mentioned, Juno was sterile, how then, you will say, came she to be the mother of Vulcan? Most of you, of course, know the answer; but, as there may be one or two who don't, I'll repeat it here.

Juno, though she was sterile in the embrace of Jupiter, and too virtuous to indulge a lover, wanted a child almost as much as did her husband. So she made one. On her own. Alone she did it—or at least that was what she said. Now parthenogenesis is a tricky sort of thing. You never can be sure what the results will be. In this case the result was Vulcan. There wasn't much about Vulcan that pleased the eye. Perhaps had she been mortal, Juno would have taken him to her bosom. "An ill-favoured thing but mine own," she would have said, and thereafter would have devoted her life to him.

But not Juno. She looked upon him as the third Richard looked upon himself—as a monstrosity

deformed, unfinished, sent before his time into this breathing world, scarce half made up, and that so lamely and unfashionable that dogs barked at him, and gods laughed at him whenever he came in sight. She, the proud queen of the gods, found herself an object of derision. Her subjects used her and her little monster for their mirth, yea for their laughter! Hardest to endure were the sneers of Hecate who was herself no beauty for she had three heads, a human one in the middle, that of a horse on one side and that of a dog on the other. Her laughter was something to hear. Therefore, as Gracie Fields did with her harp, so did Juno do with her Vulcan—she flung the damned thing away!

Now, while it is uncertain who did the flinging (Jupiter according to one story, Juno according to another), there appears to be no doubt that he was flung. His journey was a long one and is thus described by Milton:

"From morn

"To noon he fell, from noon to dewy eve,  
"A summer's day; and with the setting sun,  
"Dropped from the zenith like a falling star,  
"In Lemnos, the Egean isle."

His crash-landing resulted in two broken legs and gave him a pretty bad shaking up. As no doctor was around, the fractures set themselves; an excellent reason for his abnormal gait. ("When from his anvil the lame artist rose; Wide with distorted legs oblique he goes.") Although pretty badly bashed up by his fall he thrived, because we are told "as he limped along, His tottering knees were bowed beneath his weight." Nor did he lack agility for we are further told:

"There the lame architect the goddess found  
"Obscure in smoke, his forges blazing round.  
"While, bathed in sweat, from fire to fire he  
flew."

You can't do much flying if you're crippled with polio. All together it is pretty clear that, whatever ailed Vulcan it was not polio.

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\*Neustadter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943.



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## Medico-Legal

### The Anatomist as a Witness\*

I. MacLaren Thompson†

B.Sc., M.B., Ch.B. (Edin.), F.R.S.C., F.R.S.E., Winnipeg

*I have heard of a grave-digger pointing out a large human bone to a lady who was looking at his work, of digging a grave, and asking her, "D'ye ken wha's bane that is, mem? That's Jenny Fraser's hench-bane," adding with a serious aspect, "A weel-baned family thae Frasers!"*

DEAN RAMSAY'S *Reminiscences of Scottish Life and Character*.

The anatomist is not a general medico-legal expert; he is an expert only in Anatomy (*sensu lato*). He may be giving evidence concerning a skull; but if the skull presents a fracture he should not (ordinarily, at any rate) be asked for an opinion about the fracture—that is in the field of another specialist, for instance a pathologist. The anatomist is an expert only in what is considered normal bodily structure; but there is one class of abnormality concerning which an anatomist may render an expert opinion, namely, developmental abnormalities or congenital anomalies. In the dramatic Ruxton case, amongst the mutilated human remains was found a cyclopean eye—i.e., a single eye formed by the fusion of two originally separate eyes. Neither of the victims (who were adults) had such an eye. The chief evidence concerning this (under the circumstances) almost incredibly weird object came, appropriately, from an anatomist: it was definitely not a human eye, but came probably from an abnormal pig.

The services of an anatomist are most frequently sought in connection with the attempted identification of fragmentary human remains, especially bones. The usefulness of soft parts (skin, muscles, etc.) depends so much upon circumstances that I shall not venture any general statements beyond mentioning finger-prints. Nor shall I discuss the use of X-rays, important though they have been, even in my limited experience; there are specialists in that field, though in certain cases radiologists and anatomists may profitably collaborate. The identification of the remains of a number of people after a major disaster, such as the burning of the "Noronic," differs in some ways from the usual identification of a single skeleton: for instance, the material is fresh, some soft parts are frequently present, and the remains of several people may be mixed up.

Having had no training as a geologist, a palaeontologist, or an archaeologist, I do not venture a precise opinion concerning the time elapsed since death, and related matters. I may illustrate from one of my reports.

"Though the bones vary in appearance, on the whole they show considerable bleaching (especially the skull), suggesting that they have been exposed to the action of natural agencies (weather, insects, etc.) for a considerable time. On the other hand, the bones are heavy and show very little tendency to crumble, indicating that they retain considerable organic constituents. On this basis I infer that this person died not very recently, but within recent years. This is the only point in this report concerning which I do not claim expert knowledge." My view is that, unless the anatomist happens to have had training or experience also in geology, palaeontology or archaeology, a specific or detailed opinion on such matters should not be expected from him; the above quotation exemplifies the sort of non-expert opinion that an ordinary anatomist might give.

The question "Are the bones human or not?" can be of paramount importance. More than once anxious police have brought bones which to their relief I could declare definitely were not human. If an anatomist asserts that certain bones are not human, he should not be expected to give an equally confident opinion as to what animal they came from; unless he happens to have that special training or knowledge, he is not necessarily an expert in zoology or in comparative anatomy.

Two of my cases exemplify circumstances in which the question of the human origin of the remains has a different significance from the foregoing. In one case a house believed to have been occupied by an elderly man burned, in the other an airplane in which two men were known to have taken off crashed and burned; in each case I was asked whether a few small fragments of charred bones were human remains. The first step was to determine the bones of which the fragments were parts. Then the fragments were matched against the corresponding parts of known human bones and, as controls against the same bones of one or two common animals. The similarity to human bones and the difference from animal bones led to the opinion that the remains were human; the use made of this opinion does not concern us here.

Perhaps the most interesting type of case for the anatomist is when there is a missing person, especially if there is a possibility of death from unnatural causes. Are the remains those of the missing person? This is a question of personal identification that the anatomist can never answer, and should not be expected to answer. All that should be expected of him is group identification, as exemplified in one of my cases: an adult male, in his early or middle twenties, about 5 feet, 8-10

\* Slightly altered from a paper presented before the Manitoba Medico-legal Society, Winnipeg, Nov. 4, 1952.

† Professor of Anatomy and Chairman of the Department, University of Manitoba.

inches, tall, with a distinctly large, broad head, a well-developed chin, and a noticeably small tooth on each side of the upper front teeth. Of course that description could apply to many people, though the dental peculiarity greatly reduces the size of the group thus specified. I wish to emphasize, however, that such an anatomical description specifies a **group** of people, not an individual. Certain bones may or could have come from a specified individual, but in respect of their anatomical features they could equally well have come from another person of the same sex, age, etc. However, though positive individual identification can never be made upon the purely anatomical features of bones, the group identification may in some cases be of the greatest importance by definitely ruling out a suggested individual identification. If the missing person had passed his 54th birthday, and the anatomist can state unhesitatingly that the bones submitted to him came from a person between the ages of 18 and 25, identification of the remains as those of the missing person is definitely negated, and so a false lead is followed no further. True, a fresh case may be opened up, but that is another matter. When my services are sought in such a case, I like to know if there is a missing person, and if there is any point in my field of special interest to the authorities, but I prefer to know as little as possible about the person, lest I be unconsciously influenced in my opinions. Of the questions facing the anatomist in such cases I shall discuss only sex and age, stature and race. Regarding any of these, the ability or inability of the anatomist to express an opinion depends upon whether or not the remains include the important bones in sufficiently intact condition.

The sex and the age of bones are inter-related to a degree not commonly realized. Of course the most reliable indications of sex are to be found in the pelvis, at any age. But in other bones sex differences are related to age in ways too complicated to discuss here; I shall return to this later. The age of a person under 30 can be estimated to within five years, and often much more precisely if certain bones and teeth are available. Over 30, it is usually risky to estimate age within less than a decade, and it can scarcely be estimated at all without the skull.

I think that there is a general tendency to over-rate the ability of an anatomist to estimate the stature of a person from his bones. Strictly speaking, he can do nothing of the sort. What he does is this. By mathematical formulae he computes the stature from the available limb bones, or sometimes from the backbone; for example, in one case from the length of the thigh bone I computed a stature of 5 feet, 8½ inches. Now, the mathematics whereby these formulae are developed is such that the computed stature is **not**

that of any individual, but an estimate of the **average** stature of people having that length of thigh bone, or other bone used. The stature of the individual is unknown; it may have been close to the computed average, or it may have been considerably more or less; it is more likely to have been close to the average than far above or below it; but considerable variation of individuals from the average must be allowed for. All that can be said with confidence is that the stature of the deceased was probably within certain limits. This process can be repeated, utilizing as many long bones as are available, and certain combinations; thus several independent estimates are computed and compared. In the case mentioned, six such estimates of stature lay within a range of just over half an inch. This consistency of six independent estimates on different bases was at any rate encouraging. I selected the most generally reliable of these formulae (that utilizing both thigh-bone and arm-bone), and regarded the other estimates as supporting collateral evidence. But still I had estimated only the average stature of a **hypothetical group** of people having his length of thigh and arm. My final estimate of the stature of the man, between 5 feet, 6 inches and 6 feet, probably between 5 feet, 8 inches and 5 feet, 10 inches, was merely a personal opinion, based on the procedure just outlined; it was not computed directly, for no way is known of doing that. So one should not expect a precise estimate of stature, or of any other physical dimension, calculated from bones; in such work precision and confidence vary inversely, and the anatomist is the best judge of where to strike a reasonable and useful balance between the two.

However, the matter about which I am most cautious is race. Notwithstanding my anthropological training (perhaps because of it), I usually prefer to express no opinion concerning this, for racial characteristics are characteristics of the **race**, not necessarily of the individual; an individual may or may not present some of the bony characteristics of his race to a recognizable extent. He may also be a hybrid of unknown degree. I am well aware that books set forth many skeletal criteria of race; but unless certain racial features are beyond all reasonable doubt, as the extremely protruding jaws and teeth of **some** negroes, I am very reluctant to express an opinion. My feelings may therefore be imagined upon receiving one day some crumbling bits of bone, accompanied by a letter from a coroner (outside Winnipeg) reading in part: "Would you care to comment as to whether these are Indian or white?" As I glanced over the fragments, hope died within me; however, I determined to see what I could do. I was able to conclude that the remains were those of a female in her thirties. Fortunately there was a portion of the left half of the lower jaw with its

teeth, including the wisdom tooth. Quoting from my report:

"Although wearing of the teeth is commonly recognizable by the age of 30 in white people, the degree of wear visible in all the available teeth . . . is greater than one would expect in a white person of this age; it makes one think of the chewing of hides, and the like, practised by the Indians, especially the females, long ago. The left lower third molar (the only one available) is of special interest. It is not only fully erupted, but as worn as the other teeth. Though so large and fully erupted a third molar does occur in some white persons, it is much commoner in other races, including North American Indians. The degree of wear of this tooth suggests that it had been erupted for some years, possibly in the late 'teens. This combination of early eruption and wear of the third molar, especially in a female, suggests an Indian rather than a paleface."

Thus an anatomist who ordinarily would hesitate to express an opinion concerning race actually did so on the basis of observations centred on a single tooth! So greatly do circumstances alter cases.

It is usually the expert **opinion** of the anatomist that is of value to the legal authorities, though the technical facts are available if desired. I was once asked by a member of the jury, "How do you know that the jawbone belongs with that skull?" This seemed to indicate that he had been following my evidence pretty attentively; I was permitted to demonstrate the specimens to him (and incidentally to the rest of the jury), which I did as simply and clearly as I could, and he seemed satisfied that my opinions were based upon facts.

The anatomist commonly submits a report, which forms the basis of his evidence. This report should contain clear statements of (1) his opinion; (2) the facts on which they are based, and (3) the degree of confidence (or of doubt) with which he holds them. No matter how vague and uncertain his opinion may be, his statement of it should always be clear, so that the reader will understand what the anatomist really thinks on the important points, including his doubts. On the witness stand, however, the anatomist might remember that he is there to help the Court to reach a verdict, and that his opinions are more likely to be helpful than are his doubts. The questions addressed to

him are designed to elicit the points considered important by the Court, whether these are opinions or doubts.

With the case of a missing person to be solved, it may be a little exasperating to have an anatomist say that he is not certain whether the remains are male or female! The following purely imaginary interrogation illustrates some of the points mentioned in the preceding paragraph. "Can you tell us whether these bones are those of a man or a woman?" "I think that they are those of a woman." "Are you sure of that?" "No, I cannot be sure." "Could they be those of a man?" "Yes, they could." "Then why do you think that they came from a woman?" "Chiefly because of three things: (1) the shallowness of the joint between the two hip bones, (2) the widely open notches at the back of the hip bones, and (3) the sharp upper margins of the eye sockets. There are other points, but in this case I am relying chiefly on those three." "Then why have you any doubt?" "Because these bones came from a young person in the 'teens, and the female features of this particular pelvis, though recognizable, are not sufficiently distinct to make me feel certain that this is not an immature male." "You said something about the eye sockets?" "Yes. The sharpness of the upper edge (more readily felt than seen) is a female feature. But an adolescent skull showing this might possibly have come from an immature male." "Are you usually so uncertain about the sex of a skeleton?" "Oh no; not if it is reasonably complete and is that of a mature adult." "Do these bones show any male characteristics?" "None that I can detect. That is why I have no reasonable doubt that they came from a female." "The balance of probability, then, is that they are female?" "Yes, definitely."

Gentlemen, I have tried to give you a few glimpses of how an anatomist works on a certain kind of case, and especially how he thinks. In some cases his work is fairly straightforward, and his opinions are unequivocal. Often, however, it is no easy task to formulate opinions that he can conscientiously give under oath. He is apt to recall the whimsical warning of Thomas Henry Huxley, that it is not given to any man to be altogether right—that is a reflection which it is very desirable for any man to bear in mind who has had the good luck to be nearly right once.

## Cancer Diagnostic Service

(A Report on the Second Year's Operation)

R. F. Friesen, M.D.

The Cancer Diagnostic Service, initiated by the joint efforts of the Manitoba Medical Association, the Cancer Relief and Research Institute, the University of Manitoba, and the two main teaching hospitals of the province, has completed its second year of operation. It is fitting at this time to report to all those participating with regard to its achievements during the year just ended, and to ascertain how effectively the service is fulfilling its objectives, and meeting the difficulties which were anticipated.

During the year from December 1, 1951, to November 30, 1952, a total of 115 patients were referred for investigation as compared to 80 during the first year of operation—December 1, 1950, to November 30, 1951. Of these 115 patients, 44 were referred to the unit at St. Boniface Hospital by 29 doctors, and 71 were referred to the unit at the Winnipeg General Hospital by 45 doctors. Of the total patients, 61 (or 53%) were found to have some form of cancer; in 48 (or 42%) non-malignant conditions were found; and in 6 patients (or 5%) no definite diagnosis was made. These proportions are very similar to those of the first year, the corresponding figures being 56% malignant; 41% benign; and 3% not diagnosed. An indication of the type of case being investigated can be obtained from Table 1, which lists the site and the nature of the lesions diagnosed.

**Table 1**

Site and nature of lesions diagnosed

	Malignant	Benign
Skin .....	12	3
Breast .....	7	9
Uterus (incl. Cervix) .....	7	8
Lip .....	7	2
Stomach .....	4	6
Lung .....	3	1
Thyroid .....	3	1
Rectum .....	3	—
Salivary Gland .....	3	—
Colon .....	2	3
Prostate .....	1	2
Heart Disease .....	—	3
Buccal Cavity .....	—	3
Urinary Bladder .....	1	1
Hemorrhoids .....	—	2
Pancreas .....	1	—
Kidney .....	1	—
Testicle .....	1	—
Liver .....	1	—
Gall Bladder .....	1	—
Ewing's Tumor of Bone .....	1	—
Fibrosarcoma .....	1	—

Leukemia .....	1	—
Duodenum .....	—	1
Staphylococcus Infection .....	—	1
Vulva .....	—	1
Aplastic Anaemia .....	—	1

The basic reason for the initiation of the Cancer Diagnostic Service two years ago, was "to reduce cancer mortality by counteracting some of the geographic and economic factors which hinder early diagnosis." It seems reasonable to expect that any arrangement which facilitates referral of problem cases by the general practitioner and which focuses suspicion on the possibilities of cancer, should have this desired effect. At present, it is impossible to prove statistically that the service is indeed producing such a result because the period of operation has been too short to permit the accumulation of a sufficiently large volume of cases for the development of a definite trend. However, individual case histories and the comments of participating doctors are encouraging. What is certain is that the facilities are available in this province, and financial considerations need not render any required investigation inaccessible to the rural patient.

When plans for the Cancer Diagnostic Service were formulated, it was agreed that emphasis should be placed on the importance of the general practitioner in the diagnosis of cancer. It will be remembered that several years ago there was a great deal of pressure from lay groups, and considerable enthusiasm from members of the medical profession in many centres, for the development of cancer detection clinics. Because patients went directly to these, rather than to their family doctor, the wide-spread adoption of such a system would almost certainly tend to make the general practitioner less cancer conscious. The doctors of the North American continent are becoming increasingly aware that the vast majority of cancer cases will not be discovered because of a patient's self-diagnosis of cancer and subsequent visit to a cancer detection centre, but because he seeks his doctor's advice regarding some troublesome and persistent symptom. It therefore seems logical and indeed essential, that the general practitioners be required to play a very important part in any contemplated cancer control programme, and emphasis is being placed more and more upon the idea of making every doctor's office a cancer detection centre. Therefore, by the establishment of the Cancer Diagnostic Service in Manitoba, we have forestalled the development of a system with basically unsound features,

and have laid the foundation for a cancer diagnosis programme where it properly belongs—namely, in the hands of the individual practising doctors of the province.

Among the dangers foreseen for the Cancer Diagnostic Service when it was being initiated was that it might be abused by the referring doctors. It was suggested that referring doctors might make use of the service to rid themselves of advanced cases whose care had become a nuisance. In the two years of operation, however, this has not happened, nor is it likely to as the service is restricted to diagnosis only. It was also feared that a large proportion of patients would be referred for a costly and intensive investigation even though cancer was only a remote possibility. Here again, experience has proven these fears to be groundless. With hardly an exception, the patients referred during the past two years have presented problems of diagnosis in which cancer was a very real possibility. In this connection, it is difficult to set a figure which would constitute an optimum proportion of malignancies in the final diagnoses. It is obvious, however, that a high proportion of patients in whom cancer is diagnosed indicates that the symptoms are highly suggestive at the time of referral. In the interests of earlier diagnosis it would seem advisable for patients to be referred when symptoms of malignancy are less obvious. In passing, it is interesting to compare the experience of the Cancer Diagnostic Service with that of the Manitoba Cancer Relief and Research Institute's biopsy service. In the former, as already stated, malignant cases constitute 53% of the total—in the biopsy service, only about 10% of tissues submitted are found to contain cancer. A further comparison can be made with the experience of cancer detection clinics where less than 1% of the patients examined are found to have cancer.

Because there are many doctors practising in rural Manitoba who are not availing themselves of this service, it seems desirable to outline very briefly how they can go about doing so. The Cancer Diagnostic Service is intended to facilitate referral of those patients in whom the doctor suspects cancer but cannot prove its presence because he lacks either the facilities or specialized skill necessary to make a definite diagnosis. The service is restricted to residents of Manitoba, outside of the Greater Winnipeg area, because of the manner in which the costs of the service are met. To avail himself of the service in an individual case, the doctor merely completes one of the prescribed referral forms stating that he has found symptoms suggestive of malignancy and that in his opinion, the financial status of the patient is such as to prohibit him from paying for the further investigation required. The form is then countersigned

by the municipal secretary, and presented by the patient to the diagnostic unit at either the St. Boniface Hospital or the Winnipeg General Hospital—whichever one he and his doctor prefer. Booklets of the referral forms have been mailed to all practising doctors and more are available upon request from the Manitoba Cancer Relief and Research Institute. At the diagnostic unit, all indicated diagnostic procedures will be carried out without any direct charge being made to the patient or to the municipality in which he resides. The cost of such procedures as diagnostic x-ray, and laboratory tests, along with the cost of hospitalization, is met by the Cancer Institute. The medical services of the specialists in the various fields are provided without recompense by all doctors participating in the work of the clinics. When the diagnosis has been established, a complete report of the findings is sent to the referring doctor and the patient passes into the usual channels for the purpose of treatment. Usually the required treatment is carried out on a public ward basis. It is quite in order for the referring doctor to request his patient to return to him for treatment if he so desires.

The Cancer Diagnostic Service was planned to meet the needs of the general practitioners and particularly those practising in the smaller centres. Suggestions as to how this might be done more effectively are welcome, and should be sent to the Manitoba Cancer Relief and Research Institute.

## Book Reviews

**Man Against Cancer** is the story of cancer research told with scientific accuracy, but in non-technical language, by one whose life has been spent in this work. The author felt that the lay public were ignorant of much that they should know, and that their conceptions of the disease were often quite wrong. He was of the opinion that the story of "the intricate and ingenious devices that the scientist uses in surmounting obstacles to reach his goal, can be fascinating and inspiring to the layman as well as to the scientist." There is a romance of science that stimulates the mind and satisfies the soul, it happens also to be the surest approach for one's understanding of the truth."

Here, then, is the story or, if you like, the romance of Cancer. The reader is told in an interesting fashion about its nature, its frequency, the influences of heredity and environment, how it is diagnosed and how it is treated. The story of cancer-research is also told, the early experimental studies; the role of genetics and hormones; the cancer-producing agents, the tumor viruses, the chemistry of cancer. The story ends with a backward look over what has been accomplished

and a forward of balanced aptimism. Man's struggle against cancer has been a long one nor can we yet see the beginning of its end but perhaps we have reached the end of the beginning.

The author writes easily and with complete authority. At present he heads the department of experimental biology at the Weizman Institute in Rehovorh (Israel). He played a large part in creating the Oxford University Centre of the British Empire Cancer Campaign in 1938 and he remained in charge there until 1949. He is a graduate of the University of Leeds.

Professional people as well as laymen will find the book both interesting and instructive.

**Man Against Cancer.** The story of Cancer Research, by I. Berenblum. Johns Hopkins Press, Baltimore; Toronto, Burns & MacEachern. Price \$3.95.

**Essentials of Body Mechanics.** It is the authors' contention that chronic illness is influenced by changes in body mechanics. Body mechanics, as defined by the White House Conference on Child Health and Protection, is "the mechanical correlation of the various systems of the body with special reference to the skeletal, muscular, and visceral systems and their neurological associations. Normal body mechanics is said to obtain when this mechanical correlation is most favorable to the function of these systems."

Changes in bones and joints may result in changes in the shape of the body cavities. This causes changes in circulation in the arterial and venous systems. Chronic passive congestion and irritation are two of the results and these may lead to malignant changes. In good body mechanics the abdominal cavity is large, broad and deep in the lower rib region. Its shape is like a pear with the large end up. Bad mechanics turns it the other way around and by distorting its contents makes disease more easily produced.

Changes occur also in the chest. With the antero-posterior flattening of the chest which comes with faulty body mechanics, other deformities can occur easily. Downward sagging of the entire thorax and its contents first develop. This leads to changes in the clavicle and the shoulder girdle. As the process extends both the thoracic wall and its contents become more faulty mechanically and the normal functioning of the heart and lungs is interfered with.

The authors consider such topics as the factors that lead to faulty body mechanics and their effects in different regions; developmental deformities; backache and other spinal strains; the effects of faulty mechanics on the heart, abdominal viscera and nervous system. There is a special chapter on arthritis, another on the feet and a long one on the effects of bad body mechanics in old age.

Treatment by braces, exercises and muscle re-education is discribed.

The fact that this is its fifth edition is evidence that the book has been found useful.

**Essentials of Body Mechanics in Health and Disease.** By Joel E. Goldthwaite, M.D., F.A.C.S., L.L.D., Sc.D.; Claude T. Brown, M.D., F.A.C.S.; Loring T. Swaim, M.D., and John G. Kuhns, M.D., F.A.C.S., Sc.D. 356 pages, 135 illustrations. J. B. Lippincott Company, Montreal. Price \$6.00.

## Artists, Photographers Invited to Ninth Physicians' Art Salon

All Canadian physicians and medical undergraduates with art or photography as a hobby are invited to exhibit some of their work at the 9th annual Physicians' Art Salon, to be held at the Royal Alexandra Hotel, Winnipeg, from June 15 to 19, in conjunction with the convention. All entries in the division of fine arts, monochrome photography, and colour transparencies will be displayed on the convention floor and judged for awards by a panel of outstanding Canadian artists. Members of this panel are: J. M. Duncan, Mr. Alvin C. Eastman and Mr. Bert Hunter.

By popular request there will be a slight modification in judging of fine art. Entries will be subdivided into traditional and modern works, and prizes awarded in each category.

Again sponsored by Frank W. Horner Limited, the salon is expected to attract a large number of enthusiasts in the various media. Organized originally to foster restful pursuits in the profession, the Physicians' Art Salon has aroused widespread interest across the Dominion and has become a forum at which artistically gifted physicians can exhibit the produce of their leisure hours before an interested medical audience.

In addition to awarding prizes the Horner Company will reproduce winners in the 1954 Physicians' Art Salon calendar. A copy of this attractive full color desk model can be obtained by writing Frank W. Horner Limited.

### TO ENTER


Anyone interested in entering work is urged to notify the sponsor, P.O. Box 6139, Montreal, who will furnish full details and the necessary entry form. A short note or postcard will do. All expenses, including the transportation of exhibits to and from Winnipeg, will be borne by the sponsor.

### Deadline

Entry forms must be completed and in hand before May 25th to ensure proper listing of exhibits in the catalogue. Exhibitors are also asked to ship entries far enough in advance to allow for the inevitable delays in express and parcel post. Full shipping instructions appear on the entry form.

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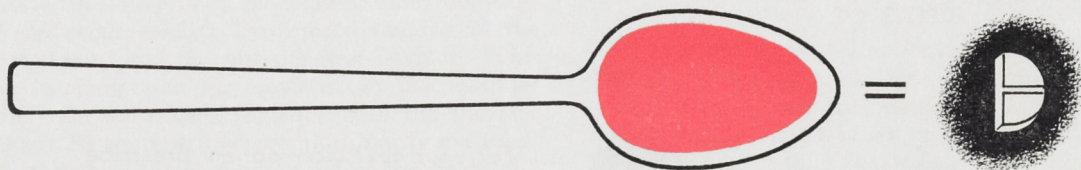
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## Editorial

J. C. Hossack, M.D., C.M. (Man.), Editor

### Post-graduate Courses

By the time this appears in print the Annual Post-graduate Course will be over. Dr. Mathewson tells me that he is disappointed by the small number of city practitioners who enroll in spite of the special consideration they are given. Whether or not their attendance this year has been more to his liking remains to be seen. Yet, should this year be no better than others, it would not be remarkable because city doctors have a continuing post-graduate course all through the winter months.

The total number of professional meetings held during the season must be very large. There are hospital luncheons, ward-rounds and sectional meetings. There are the general, special and sectional meetings of the Winnipeg Medical Society. There are clinical-pathological and radiological conferences and so on. Indeed, if one were to attend and read all the journals he ought to read there would be little time left for play and even scarcely enough to put into practice all this new-found knowledge.

Because, after all, these educational meetings are not all that demand attendance and time. There are business sessions as well. In sum, it is impossible to meet all these engagements and yet none can be missed without loss.

I should, for purposes of illustration, have prepared a list of the topics considered during the past few months but it is quite safe to say that no field of practice has been overlooked, no method of investigation ignored, no new form of treatment disregarded. Rare as well as ordinary conditions have been shown and their diagnosis and treatment discussed. From the head to the feet regionally, and from acne to zoster alphabetically, almost nothing has been neglected. Anyone who could have attended all these discussions and presentations would have had a very wide instruction but it would have been unconnected: it would have been like the verbal presentation of so many journal articles.

Would it not be possible to arrange these unrelated topics in a systematic manner so that each year the local practitioners would really get an orderly arranged post-graduate course? The Society meetings could set the pace. Not all the programme each evening but a part of it might well be in the hands of the academic departments. The correlation of scientific and clinical aspects is not always clear to those in practice especially when many new things have been discovered and applied since their college days.

The hospitals could then arrange their programmes to illustrate the disorders of an organ or

a system. Again it would not be necessary for the whole programme to be devoted to such a topic. But there would be some continuity. There would also be variety for the interesting cases in hospital at the time would not be neglected.

Emphasis upon a certain type or class of disorders especially with the scientific introduction suggested, would give point to reading and make it more profitable.

Such a scheme has on the surface at least many advantages. There would be system where now there is none. There would be more profitable use of available material. There would be better attendances because each "student" would want to follow the series. The work of programme committees would be lessened for at least one topic would be already decided upon for each meeting. I think the "students" would favour such a method.

Whether or not this scheme has been tried elsewhere I do not know nor does it matter. There is no reason why we should always follow. Between now and September there is time to consider and plan. I believe the experiment is worth trying. I wonder how many agree with me.

## Obituary

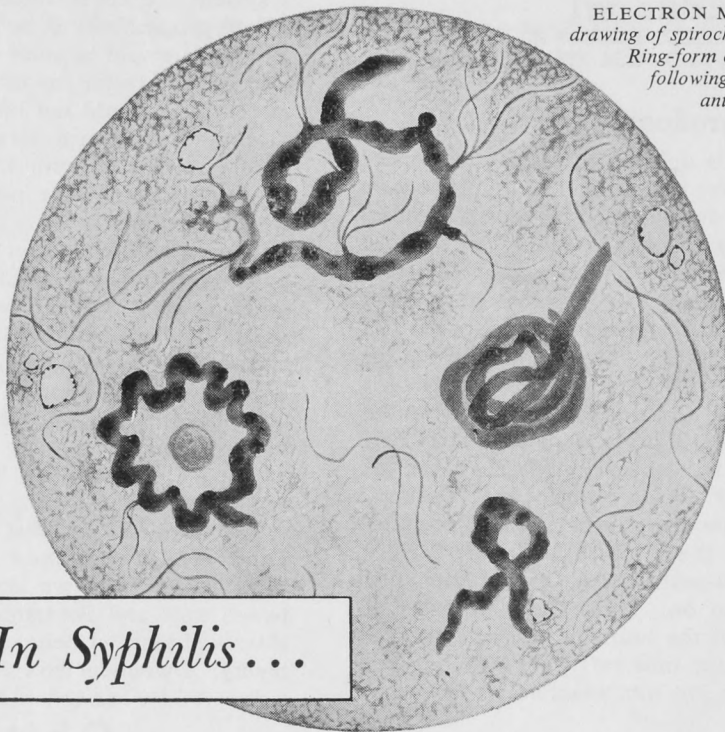
### Hugh Frederick Woodhouse Vernon

Hugh Frederick Woodhouse Vernon died in Winnipeg on January 31st. He was a native of Derbyshire, a graduate of the University of Toronto (1903), and a practitioner in Manitoba all his professional life time. He served the people of Starbuck for over a quarter of a century and before that practiced at Westbourne.

While at Westbourne he developed acute glaucoma which took from him the sight of one eye and left the other impaired. This forced him to give up the pleasures of reading but he was not altogether cut off from his books for his wife and oldest daughter became his eyes. They read to him not only for his amusement but for his instruction also. In this way he was able to keep up with his journals and text books.

His family assisted him also in those professional tasks—laboratory work and dispensing—which were within their scope; so that he was able to continue active practice including the duties of provincial coroner, until his retirement at the age of seventy.

In spite of his handicap he found life pleasant. He was interested in his garden, enjoyed music, was not neglected by his friends and derived much comfort from the devotion of his family. At the end he was spared the distress of a long illness. He was in his eighty-first year and is survived by his widow and their three daughters.



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Curtis, A.C., Kitchen, D.K., O'Leary, P.A., Rattner, H., Rein, C.R., Schoch, A.G., Shaffer, L.W., and Wile, U.J.:  
Penicillin Treatment of Syphilis, *J. A. M. A.* 145: 1223-1226, April 21, 1951.

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## Winnipeg Medical Society

Reported by R. H. McFarlane

The regular monthly meeting of the Society was held on Friday, February 20th. The programme was opened with a short talk by Dr. R. A. Tanner, dealing with the progress made by the Civil Defence Medical Committee, of which he is Chairman. This discussion was featured by a presentation of a map of the city, showing the location of hospitals in relation to the density of population throughout the Greater Winnipeg area, the city being divided into a number of sectors, each having within it or close by reasonably adequate facilities on which to base the treatment of any casualties that might occur. As this Committee has only just begun its work, it would seem that already considerable progress has been made.

The main speaker of the evening was Dr. Arthur I. Lerner who presented a paper on the surgery of mitral stenosis. Dr. Lerner gave a lucid and uncomplicated description of the disordered physiology leading to congestive failure in mitral stenosis and gave a very interesting outline of indications and contraindications to the operation of mitral commissurotomy. In addition, he presented 2 cases operated on here in Winnipeg. The one being successful, pointed out the excellent results that could be obtained in a suitable case. The other being unsuccessful, served as a reminder that many difficulties can be encountered. The discussion was lead by Dr. L. G. Bell, S. D. Rusen, and others who had an interest in the cardiological and anaesthetic problems involved. This was a very timely topic in view of the widespread interest in recent advances in cardiac surgery and it is too bad that so few of the Society members were able to be present.

The regular meeting of the Society was held on the 20th of March, 1953. This meeting is the one now annually in the charge of the General Practitioners Association. The first speaker of the evening, Dr. Gordon E. Wride, was introduced by Dr. V. F. Bachynski, President of the General Practitioners Association. Dr. Wride is Assistant Director of Health Insurance Studies in the Department of National Health and Welfare. Dr. Wride was substituting for Dr. Fred Jackson who was not able to make this address as previously planned. Dr. Wride pointed out that since Confederation the matter of the nation's health had always been a provincial responsibility in conjunction with local

municipal boards of health. However, the Federal Government had found means of assisting the provincial health departments since 1919, when the first grants in aid were made for the control of venereal disease and outlined the development of such assistance up to the present time, when the Federal Government is providing assistance for tuberculosis, mental health, cancer, venereal disease, crippled children, and the provision of hospital construction. This was a very interesting and informative talk and one which was very well received.

The second paper of the evening was delivered by Dr. L. S. McMorris of Neepawa, speaking on the subject of Medicine in Moscow. Dr. McMorris had recently returned to Canada after spending a period of 2 years as physician to the British Embassy in Moscow. He gave a very interesting and picturesque description of the way in which foreigners, even those diplomatically immune like himself, were treated behind the Iron Curtain. Apparently the facilities afforded for treatment were not freely available and patients requiring hospital care were removed completely from his control. He had experienced a great deal of difficulty in even being able to visit any of the Moscow hospitals. The general impression conveyed, however, is that medical practice and medical research were a little more primitive even than we had imagined. For myself, I have spent all of three days in Russia near Murmansk. I was surprised at how closely Dr. McMorris' description of life in Moscow approximated what I previously had seen myself. In all, a very interesting and entertaining evening.

### Clinical Luncheons

Clinical Luncheons are held at 12.30 p.m. at the various Winnipeg hospitals shown:

Deer Lodge .....	First Monday
General .....	First Thursday
Children's .....	First Friday
Misericordia .....	Second Tuesday
St. Boniface .....	Second Thursday
Victoria .....	Second Friday
Grace .....	Third Tuesday
General .....	Third Thursday
St. Joseph's .....	Fourth Tuesday
St. Boniface .....	Fourth Thursday
Municipal .....	Fourth Friday

The Winnipeg Medical Society usually meets at 8.30 p.m. on the third Friday of each month.

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## Association Page

Reported by M. T. Macfarland, M.D.

### Attention, Medical Officers of Health

Manitoba Regulation 49/52 being a Regulation to amend Manitoba Regulation 91/45, under the Public Health Act, was published in the Manitoba Gazette of December 20th, 1952, and contains rules for guidance of operators of Summer Resorts, Tourist, Community and Children's Summer Camps.

### Health Services Act, Manitoba

Manitoba Regulation 29/52 being a Regulation relating to MEDICAL CARE DISTRICTS, made by the Honourable the Minister of Health and Public Welfare, dealt with the administration of anaesthetics and methods of adjudicating disputes. Notification was contained in the Manitoba Gazette for Saturday, August 30th, 1952.

Manitoba Regulation 43/52 being a Regulation relating to Laboratory and X-ray Service for a unit or area, made by the same minister outlined the Laboratory and X-ray Procedures to be carried out pursuant to the Health Services Act as follows:

#### A. Laboratory Examinations:

1. Examination of urine:
  - (1) Specific gravity,
  - (2) Albumin,
  - (3) Sugar,
  - (4) Bile,
  - (5) Red blood corpuscles,
  - (6) Casts,
  - (7) Urea clearance test,
  - (8) Examination for acid fast bacilli by stained film only.
2. Examination of blood:
  - (1) Estimation of Haemoglobin, Red Blood cells, White blood cells, Platelets, Reticulocytes, and Differential count,
  - (2) Sedimentation rate,
  - (3) Blood chemistry—
    - Sugar,
    - Urea nitrogen,
    - Icterus index,
    - Plasma Bilirubin,
    - Plasma chlorides,
  - (4) Blood grouping and matching.

**Note:** Blood agglutination—Test for Heterophile antibodies—Wassermann and Kahn tests, to be done by Provincial Laboratories.

#### 3. Examination of Cerebro-spinal Fluid:

- (1) Cell count and differential,
- (2) Total protein,
- (3) Sugar and Chlorides,
- (4) Smear for cells and organisms.

**Note:** Colloidal gold test and Wassermann to be done by Provincial Laboratories.

#### 4. Examination of Gastric Contents:

- (1) Fasting quantity,
- (2) Free HCL,
- (3) Total acidity.

#### 5. Examination of Stool:

- (1) Occult blood,
- (2) Parasites and ova (to be confirmed by Provincial Laboratories),
- (3) Pus and mucous.

#### 6. Bacteriology:

Preliminary examination of materials from nose, throat, urogenital tract, sputum, faeces, etc., and where considered necessary, transmission of these specimens to the Provincial Laboratory.

#### 7. Basal Metabolic Rate and Electrocardiography:

Estimation of.

#### 8. Tissue Biopsy:

For preservation and transmission.

**Note:** If any test not included in the above mentioned is considered essential, the Director of the Provincial Laboratory should be consulted and for any other help, the staff of the local health unit may be consulted.

#### B. X-ray Examinations:

1. Skull—Including Sella Turcica, Face, Sinuses, Mastoid, and Teeth.
2. Skeleton—Standard films of all skeletal structures.
3. Chest—P.A. and Lateral—Other positions on request.
4. Gastro Intestinal Tract—
  - Gall bladder visualization,
  - Flat Plate.
  - Barium meals and enemas,
5. Genito-urinary Tract—
  - Flat Plate,
  - Intravenous Pyleogram,
  - Cystogram,
  - Pregnancy.
6. Fluoroscopy—Routine, and on request.

Notification was given in the Manitoba Gazette for Saturday, Nov. 15th, 1952.

### Municipal Health Clinic

The Canada Gazette for Wednesday, Oct. 22nd, 1952, contains a definition of "municipal health clinic" for purposes of paragraph (c) of subsection two of Section 140 of The Excise Act, as follows:

"A municipal health clinic under The Excise Act means a health centre or health unit operated on a non-profit basis under the control of a municipal health department for the prevention or detection of disease or disabilities."

Authority is P.C. 4147, dated 1st of Oct., 1952.

### Compensation Regulations re Disease

The Government Employees Compensation Regulations, 1952, established by Order in Council P.C. 4411 of 5th Nov., 1952, were promulgated in

the Canada Gazette for Wednesday, Nov. 26th, 1952.

"Disease" means any disease other than an industrial disease, that is due to the nature of the employment of an employee and peculiar to or characteristic of the particular process, trade or occupation in which he was employed at the time the disease was contracted."

### Food and Drug Regulations

Under authority of P.C. 4197, dated 1st Oct., 1952, the Food and Drug Regulations were amended as follows:

1. By adding to Appendix III thereof the following:  
Isoniazid—Isonicotinyl hydrazide  
Iproniazid—1-isonicotinyl-2-isopropylhydrazide.
2. By deleting from Appendix IV thereof the following:  
Cortisone.
3. By adding to Appendix IV thereof the following:  
Cortisone and its salts,  
Hydrocortisone and its salts,  
Iproniazid  
Isoniazid  
Polymyxin B Sulphate for internal and parenteral use.

Notification was contained in the Canada Gazette for Wednesday, Oct. 22nd, 1952.

### Declaration of Geneva

A revision of the Hippocratic Oath by the World Medical Association was adopted at the Second General Assembly in Geneva in 1948 and has become known as the Declaration of Geneva. This Oath is receiving increasing acceptance and is reprinted here for those who may be unfamiliar with it:

At the time of being admitted as a member of the medical profession:

I SOLEMNLY PLEDGE myself to consecrate my life to the service of humanity.

I WILL GIVE to my teachers the respect and gratitude which is their due;

I WILL PRACTICE my profession with conscience and dignity;

THE HEALTH OF MY PATIENT will be my first consideration;

I WILL RESPECT the secrets which are confided in me;

I WILL MAINTAIN by all the means in my power, the honor and the noble traditions of the medical profession;

MY COLLEAGUES will be my brothers;

I WILL NOT PERMIT considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient;

I WILL MAINTAIN the utmost respect for human life, from the time of conception; even under

threat, I will not use my medical knowledge contrary to the laws of humanity.

I MAKE THESE PROMISES solemnly, freely and upon my honor.

### North of 53 District Medical Society

The Annual Meeting of this society was held at Clearwater Sanatorium, The Pas, on the afternoon of Tuesday, Feb. 17th, 1953.

Dr. S. L. Carey, Medical Superintendent of the institution, which is affiliated with the Manitoba Sanatorium Board, and which houses approximately one hundred and seventy-five wards of the Federal Government, was host and conducted visiting members on a brief tour of the hospital.

The business session was presided over by the officers, Dr. J. Leicester, President, and Dr. A. L. Jacobs, Secretary-Treasurer. Others in attendance were: Doctors S. L. Carey, C. S. Crawford, J. B. Dukelow, E. Mishima and C. N. Muhlenbeck (by invitation), R. F. Yule, The Pas; P. Johnson, H. McNicol, Flin Flon; E. H. Waugh, Lynn Lake; C. W. Wiebe, Winkler; J. D. Adamson, M. T. Macfarland, O. A. Schmidt, Winnipeg.

Officers for the year 1953-54 were selected as follows:

President ..... Dr. H. McNicol, Flin Flon

Vice-President ..... Dr. A. L. Jacobs, The Pas

Secretary-Treas. .... Dr. P. Johnson, Flin Flon

Dr. Percy Johnson was named representative of the Society to the Executive Committee of the Manitoba Medical Association.

Scientific Session—Dr. J. D. Adamson, Winnipeg, spoke on the "Epidemiology, Diagnosis, Early Treatment and Rehabilitation of Poliomyelitis."

Dr. O. A. Schmidt, Winnipeg, spoke on the "Use of Endocrines in Gynaecology."

Dr. S. L. Carey spoke on the "Use of Isonicotinyl Hydrazide in Tuberculosis," copiously illustrated with X-ray films of cases treated. Doctors E. Mishima and C. N. Muhlenbeck, employees of the sanatorium, assisted Dr. Carey in the presentation of cases.

Following the Scientific Session, a social hour preceded the delicious dinner served by the sanatorium staff at which approximately thirty persons sat down. Dr. Leicester called on Doctors Adamson, Wiebe and Macfarland to express appreciation of the group to Dr. Carey and his associates.

Following dinner the medical members heard Doctors C. W. Wiebe, President, Manitoba Medical Association, and M. T. Macfarland, Executive Secretary, discuss several matters of importance to the medical profession under the following headings:

June meeting of Canadian Medical Association in Winnipeg; Manitoba Medical Service; Revision of Fee Schedule; Trans-Canada Medical Services; National Health Insurance; Workmen's Compensation Board, etc.

It was, of course, only by the greatest coinci-

dence that the meeting was arranged for the same time as the Northern Trappers' Festival, which was held at The Pas, and members were afforded opportunity to participate in some of the major attractions prepared for the occasion. Worthy of note were the Dog Derby, the Museum of Natural History, and various events arranged by the group of twenty-five entertainers under the direction of Eric Wild, Winnipeg.

### Have You an Extra Bedroom?

The Canadian Medical Association Annual Meeting will be held in Winnipeg, June 15th to 19th, 1953.

The Manitoba Medical Association will be the HOST Division.

There are NOT nearly enough hotel beds to accommodate all those whom we hope will attend the meeting.

Accommodation at the headquarters hotel will be reserved for distinguished guests, speakers, Council members and exhibitors.

Other hotel accommodation was listed in the January and February, 1953, issues of the Canadian Medical Association Journal.

Members of the Manitoba Division are requested, if possible, to arrange to stay with relatives or friends.

Please notify the Chairman of Housing Committee, Dr. E. Dwyer, c/o 604 Medical Arts Building, Phone 93-1469.

Winnipeg members are requested, if practicable, to accept one or more visitor as guests.

### Psychiatric Section Annual Meeting

The above Section of the Manitoba Medical Association held their annual meeting on Wednesday, February 25th, 1953, at the Selkirk Mental Hospital. The business session included election of officers for the coming year, 1953-54, with the following members taking office:

Chairman, Dr. Stuart D. Schultz, Superintendent of the Hospital for Mental Diseases, Brandon.  
Vice-Chairman, Dr. J. Matas, Winnipeg.  
Secretary-Treasurer, Dr. George Sisler, Winnipeg.  
Ex-Officio, Dr. George Little, Past Chairman.

During the Scientific session, lively discussions followed each of the following papers: "The results of 150 leucotomies on patients at Selkirk Mental Hospital" presented by the Medical Staff of Selkirk Mental Hospital, and "A Case History of Juvenile Schizophrenia," presented by Dr. J. L. Asselstine.

Following the meeting, Dr. Edward Johnson and his medical staff entertained the visiting members and guests at a very fine reception and dinner.

# LACTOGEN

a powdered all-milk  
formula closely approximating  
breast milk

Lactogen is a natural all-milk formula consisting of whole cow's milk modified with milk fat and milk sugar. It contains no milk substitutes.

Closely approximating the composition of breast milk in other factors, Lactogen, however, provides a one-third more liberal allowance of protein.

Lactogen is prepared simply by stirring into warm, previously boiled water. It is made up with equal ease, either for a single feeding or for an entire day's use.

**NESTLÉ (CANADA) LTD.**





*When the Diaphragm Method  
is preferred...*

## R<sub>x</sub> Ortho kit\*

**WITH ZIPPER BAG**

**CONTENTS:** Ortho-Gynol, regular size;  
Ortho-Creme, trial size; Ortho Introducer  
and Ortho Diaphragm in prescribed sizes  
— 55, 60, 65, 70, 75, 80, 85, 90, 95 mm.

\*Trade-Mark registered



**PHARMACEUTICAL CORPORATION**  
(Canada) Limited

Toronto, Ont.

## College of Physicians and Surgeons of Manitoba

### Council Meeting (Cont.)

#### (g) Representative to the Canadian Arthritis and Rheumatism Society, Manitoba Division

"THAT our representative to the Medical Advisory Committee, Canadian Arthritis and Rheumatism Society, Manitoba Division, be Dr. M. T. Macfarland." Carried.

#### Appointment of Auditors

The Council agreed to leave the appointment of auditors to the discretion of the Executive Committee.

#### Appointment of Scrutineers

"THAT Dr. Elinor Black and Dr. W. T. Dingle be appointed scrutineers, and Dr. G. P. Fahrni and Dr. D. Swartz be appointed alternate scrutineers for the term of this Council." Carried.

#### 7. Reading of Communications, Petitions, etc., to the Council

##### A. Communication From the Canadian Doctor Re Fee Splitting

The Registrar read a communication from the Managing Editor of The Canadian Doctor stating that the subject of Fee Splitting had been receiving considerable attention recently in the press, and no one seems to know just how widespread or confined it is. He advised that in order to help throw some light on the subject, for the benefit of the doctors themselves, The Canadian Doctor is conducting a survey of Registrars in all provinces for up-to-date information, and requested views with respect to the situation in the Province of Manitoba, to be treated confidentially.

**Motion:** "THAT the Registrar be instructed to advise the Managing Editor of The Canadian Doctor that the Code of Ethics as published by the Canadian Medical Association is in operation in Manitoba, and there are no indications reported of Fee Splitting." Carried.

#### 8. Inquiries

None.

#### 9. Notice of Motion

None.

#### 10. Motions of Which Notice Has Been Given at a Previous Meeting

The following Notice of Motion was given by Dr. T. H. Williams at the May meeting of Council:

"THAT the Council charge a non-refundable documentation fee of Twenty-five Dollars (\$25.00), required from all except Manitoba graduates who apply for Enabling Certificates or Registration, to be paid before documents will be examined for eligibility." Carried.

**Motion:** "THAT Council charge a non-refundable documentation fee of Twenty-five dollars (\$25.00), required from all except Manitoba graduates and those who hold the Certificate of the

Medical Council of Canada, who apply for Enabling Certificates or Registration, to be paid before documents will be examined for eligibility." Carried.

**Motion:** "THAT the above motion concerning the documentation fee be made retroactive to May 18, 1952." Carried.

#### 11. Unfinished Business

None.

#### 12. Miscellaneous and New Business

##### A. Payment of Janitor and Luncheon

**Motion:** "THAT the sum of Five Dollars (\$5.00) be paid to the janitor for his services at this meeting, and that the sum of Nine Dollars (\$9.00) be paid for the luncheon." Carried.

##### B. Amount to be Paid to Council Members for This Meeting

**Motion:** "THAT the amounts paid to members of Council for attendance at this meeting be the usual cill for attendance at this meeting be the usual rate." Carried.

##### C. Motions Re Salaries and Amount to be Paid to the M.M.A. Each Month

**Motion:** "THAT the amount of Eighty Dollars (\$80.00) be paid to the Manitoba Medical Association each month for services, as arranged by the Liaison Committee." Carried.

**Motion:** "THAT the salaries remain as at present, namely: Registrar, Three Hundred Dollars (\$300.00) per month; Treasurer, Five Hundred Dollars (\$500.00) per annum; Assistant to the Registrar, One Hundred and Eighty-five Dollars (\$185.00) per month." Carried.

It was suggested that the Executive Committee, along with the Finance Committee, be given some freedom with respect to the College's position with the Manitoba Medical Association and the payment of salaries of those working in the office. Considerations come up from time to time which should not be left from one Council meeting to the other.

**Motion:** "THAT the Executive and Finance Committees be authorized to consider adjustments as they may arise in the matter of salaries and our relations with the Manitoba Medical Association." Carried.

**Motion:** "THAT Miss Lorne Zawadzki be employed on the staff of the College of Physicians and Surgeons of Manitoba as at October 1, 1952, at the salary of One Hundred and Twenty-five Dollars (\$125.00) per month." Carried.

#### D. Adjournment

**Motion:** "THAT the meeting be adjourned." Carried.

### Registration Committee

November 19, 1952

#### Enabling Certificates Deferred

Daisy Corbin (Sih-En Feng), M.D., National

Medical College of Shanghai, 1938.

Yun Ling Chiang, M.D., St. John's University, Shanghai, 1945.

Eugene Wei Yu Kao, M.D., St. John's University, Shanghai, 1945.

#### Enabling Certificates Granted

Samuel Tze-Tao Chang, M. D., National Medical College of Shanghai, 1940; M.Sc. (Med.), University of Pennsylvania, 1948.

Douglas Woodrow Cardozo, B.S., St. Louis University, 1948; M.D., St. Louis University, 1951.

Adolf Brettler, M.D., Friedrich Wilhelm University, 1931.

Blondel Shih Hsun Hsu, M.D., Peiping Union Medical College, 1932.

Ching-po Yang, M.D., Peiping Union Medical College, 1931.

Mao-lin Chang, M.D., Peiping Union Medical College, 1930.

#### Certificates of Registration Granted

Alberto Maria Rodrigues, M.B., B.S., University of Hong Kong, 1934.

James Edward Bennett, M.B., Ch.B., University of Glasgow, 1945.

Jean Ewald Miller Kilborn, M.D., University of Western Ontario, 1931; L.M.C.C., 1931.

#### Certificates of Licence Granted

George Neilson, M.B., Ch.B., University of Glasgow, 1952.

Paul Peter Mari, M.D., l'Aurore University, 1946; L.M.C.C., 1952.

Sydney Fogel, L.R.C.P., Edinburgh, 1952; L.R.C.S., Edinburgh, 1952; L.R.F.P.S., Glasgow, 1952.

Pamela Emelie Cooper, M.B., Ch.B., University of Birmingham, 1951; M.R.C.S., England, 1951; L.R.C.P., London, 1951.

### Registration Committee

January 8, 1953

#### Enabling Certificates Deferred

Gerhard Conradi, M.D., Friedrich-Schiller University, Jena, 1942.

Vincent Vesin Chen, M.D., St. John's University, Shanghai, 1934.

Louis Kovacs, M.D., Royal Hungarian University Pazmany Peter in Budapest, 1931.

George Biro, M.D., University of Vienna, 1937.

Pieter de Jong, M.D., Leiden University, 1950.

#### Certificates of Registration Deferred

Louis Norman Gleeson, L.M.S.S.A., London, 1951; M.D., Zurich University, 1952.

James Marshall Gillies, L.R.C.P., Edinburgh, 1947; L.R.C.S., Edinburgh, 1947; L.R.F.P.S., Glasgow, 1947.

Albert Leonard Nowell, L.R.C.P., Edinburgh,

1945; L.R.C.S., Edinburgh, 1945; L.R.F.P.S., Glasgow, 1945.

#### Certificates of Registration Confirmed

Kunigunda Zymantiene, M.D., University of Vytautas the Great, 1938; L.M.C.C., 1952.

Dewane Adrian Brueske, M.D., College of Medical Evangelists, 1947; D.N.B., 1948; L.M.C.C., 1951.

David Albert Sherman, M.R.C.S., England, 1945; L.R.C.P., London, 1945; D.A., R.C.P.S., England, 1950.

Chih Huan Ling, M.D., Peking Union Medical College, 1926; L.M.C.C., 1952.

Kuei-en Chung, M.D., Cheeloo University, 1944; L.M.C.C., 1952.

Grace Chow Wei Chen, M.D., National Tung-chi University, Shanghai, 1945; L.M.C.C., 1952.

Andrew Yiu-Suen Chau, M.D., National Medical College of Shanghai, 1947; L.M.C.C., 1952.

William Clyne Taylor, M.B., Ch.B., University of Aberdeen, 1945; D.C.H., University of London, 1950.

Teodor Muczij, M.D., Karl's University, Prague, 1928; L.M.C.C., 1952.

#### Certificate of Registration Granted

John Leslie Honig, M.R.C.S., England, 1943; L.R.C.P., London, 1943; M.B., B.S., University of London, 1945; D.R.C.O.G., 1952.

#### Certificate of Licence Granted

Edward Millar Wilson Stuart, M.B., B.Ch., Queen's University of Belfast, 1952.

### Course in Postgraduate Gastroenterology

The National Gastroenterological Association announces that its Fifth Annual Course in Postgraduate Gastroenterology will be given at the Hotel Biltmore in Los Angeles, Calif., on October 15, 16, 17, 1953.

The course will again be under the direction and co-chairmanship of Dr. Owen H. Wangenstein, Professor of Surgery of the University of Minnesota Medical School, who will serve as surgical co-ordinator and Dr. I. Snapper, Director of Medical Education, Cook County Hospital, Chicago, Ill., who will serve as medical co-ordinator.

Doctors Wangenstein and Snapper will be assisted by a distinguished faculty selected from the medical schools in and around Los Angeles whose presentations will cover: all phases of gastrointestinal diseases and problems.

One complete session will be devoted to a clinic at the College of Medical Evangelists at Loma Linda.

For further information and enrollment write to the National Gastroenterological Association, Department GSJ, 1819 Broadway, New York 23, N.Y.

## A PAGE FROM THE "Frosst" ALBUM

**"ALAMINO"**

Brand of basic aluminum glycinate

**RELIEVES PAIN****"ALAMINO" COMPOUND**

Tablet No. 382 "Frosst"

Coloured Pink, Scored.

Each tablet contains:

"Alamino"..... 7.7 gr. (0.5 G.)  
 Atropine sulphate... 1/500 gr. (0.13 mg.)  
 'Noctinal' (Butabar-  
 bital N.N.R.)..... 1/4 gr. (16 mg.)



**Charles E. Frosst & Co.**  
 MONTREAL CANADA

**PROMOTES HEALING****"ALAMINO" COMPOUND R2**

Tablet No. 813 "Frosst"

Coloured Yellow, Scored.

The same formula as Tablet 382 but with  
 Atropine sulphate... 1/250 gr. (0.25 mg.)

**DOSE:** One tablet 10 to 15 minutes after  
 meals and at bedtime.

**MODES OF ISSUE:** Bottles of 100 tablets.

**"ALAMINO" TABLETS**

Tablet No. 381 "Frosst"

Each tablet contains:

"Alamino"..... 7.7 gr. (0.5 G.)  
**DOSE:** One to two tablets 10 to 15 minutes  
 after each meal and at bedtime.

**MODES OF ISSUE:** Bottles of 100 tablets.

**"ALAMINO" SUSPENSION**

Each 4 cc. teaspoonful contains:

"Alamino"..... 7.7 gr. (0.5 G.)  
**DOSE:** One to two teaspoonfuls after each  
 meal and at bedtime.

**MODES OF ISSUE:** Bottles of 16 fluid ounces.



# Babies thrive on real meat

Clinical tests, originated by Swift as a service to the medical profession, show what happens when Swift's Meats for Babies are fed to very young infants:

- Babies *digest* the nutrients of meat as easily as milk. Sisson, Emmel and Filer, "Meat in the Diet of Prematures," *Pediatrics*, 7, 89, (1951).
- Babies *utilize* the nutrients in meat as well as in milk. Sisson, Emmel and Filer, "Meat in the Diet of Prematures," *Pediatrics*, 7, 89, (1951).
- Babies have *high-normal hemoglobin concentration* when fed meat. Leverton and Clark, "Meat in the Diet of Young Infants," *J.A.M.A.*, 134, 1215, (1947). Also Andelman, Gerald, Rambar and Kagan, "Effects

of Early Feeding of Strained Meat to Prematurely Born Infants," *Pediatrics*, 9, 485, (1952).

- Babies have a 40% lower morbidity rate when fed meat than when not fed meat. H. M. Jacobs and G. S. George, "Evaluation of Meat in the Infant Diet," *Pediatrics*, 10, 463, (1952).

- Babies allergic to milk proteins can substitute a formula made with meat. McQuarrie and Ziegler, "Nutritive Value of Mineral-Enriched Meat and Milk," *Pediatrics*, 5, 210, (1950).

If you would like a reprint of any of these studies, write Swift Canadian Co., Limited, Dept. S.M.B., Toronto 9, Ontario.

... here's meat they  
can eat at **3 weeks!**

- Swift's Meats for Babies are strained so fine they flow right through the nipple of a nursing bottle. Later, of course, babies can eat them from a spoon.
- All meat—top source of protein, B vitamins, and food iron. And Swift's Meats for Babies are expertly prepared for maximum retention of these nutrients.

- Economical—actual cost records show they cost only about half as much as meats prepared in the home.

- So—Swift's Meats for Babies are being recommended by more and more doctors *earlier* in babies' lives. Some pediatricians are starting meat as early as 3 weeks, mixed right into the formula.

SWIFT CANADIAN CO., LIMITED.



## Swift's Meats for Babies



**7** Kinds for Variety—All 100% Meat  
—Strained and Junior.

Beef, Lamb, Veal, Pork, Liver, Heart, Liver and Bacon. And now—Swift's Strained Salmon for Babies—Canada's first and *only* 100% sea-food for babies—provides all the vitamins, iron and protein of fish in easily-digestible form for babies.



All nutritional statements made in this advertisement are accepted by the Council on Foods and Nutrition of the American Medical Association.

# Manitoba Medical Service

## Statement 1

Balance Sheet as at 31st December, 1952

### CURRENT ASSETS

#### CURRENT

Cash at Banks	
Current Accounts	\$125,907.25
Savings Accounts	52,787.41
	<u>\$178,694.66</u>

Cash on Hand 100.00

#### Investments

Government of Canada,  
Province of Manitoba and  
Province of Ontario  
Hydro Electric Bonds,  
Par Value \$350,000.00,  
at cost \$350,375.00

Approximate Market  
Value \$345,807.50

Accrued Interest thereon 3,116.50  
353,491.50

Accounts Receivable  
Subscriptions in process  
of collection 81,510.55

\$613,796.71

### TOTAL CURRENT ASSETS

#### FIXED

Real Estate—Building Site \$ 11,000.00

Building under construction 175,743.44

Furniture, Fixtures and Office

Equipment, less Allowance  
for Depreciation 18,557.72

\$819,097.87

### CURRENT LIABILITIES AND DEFICIT

#### CURRENT

Accounts Payable

Accounts of Medical Members \$446,834.39

Sundry Accounts Payable 5,534.05

Deferred Income

Unearned Subscriber Payments 46,279.95

\$498,648.39

### TOTAL CURRENT LIABILITIES

#### DEFERRED ACCOUNTS PAYABLE

Accounts of Medical Members \$613,326.72

#### DEFICIT

Balance of Reserve at  
31st Dec., 1951 \$171,008.76

#### Add

Transfer from

Reserve for

Moving

Expenses \$ 5,000.00

Transfer from

Reserve for

Contingencies 50,000.00

Furniture and

Fixtures written

off in previous

years, recorded

at cost less

depreciation 12,888.10

67,888.10

\$238,896.86

## Deduct

Excess of Expenses over

Income for the year ended

31st Dec., 1952 \$531,774.10

292,877.24

\$819,097.87

## Statement 2

### STATEMENT OF INCOME AND EXPENSES

For the Year Ended 31st December, 1952

#### INCOME

Earned Subscriptions \$2,648,949.65

Interest on Bonds 5,780.19

Interest on Bank

Accounts 1,577.57

Sundry 6,252.29

\$2,662,559.70

#### EXPENSES

Accounts of Medical

Members covering

Subscribers and

Dependents \$2,951,826.07

Operating Expenses 242,507.73

3,194,333.80

#### EXCESS OF EXPENSES

OVER INCOME, carried

to Statement 1 \$ 531,774.10

Approved on behalf of the Board

Trustee P. H. McNulty, M. D.

Trustee C. E. Corrigan, M.D.

### AUDITORS' REPORT

To the Board of Trustees,  
Manitoba Medical Service,  
Winnipeg.

We have audited the books of the Manitoba Medical Service for the year ended 31st December, 1952, and report that we have obtained all the information and explanations we have required and that, in our opinion, the above Balance Sheet and accompanying Statement of Income and Expenses are properly drawn up so as to exhibit a true and correct view of the Service's affairs at 31st December, 1952, and the results of its operations for the year then ended, according to the best of our information and the explanations given, and as shown by the books of the Service. All the transactions of the Service that have come within our notice have been within the objects and powers of the Service, to the best of our information and belief.

GEORGE A. TOUCHE & CO.,  
Chartered Accountants,  
Auditors.

Winnipeg,  
27th February, 1953.

### ENROLLMENT

Subscribers, 55,217 Wives, 35,593

Children, 52,345

Total Participants, 143,155

### EXECUTIVE OF THE BOARD

P. H. McNulty, M.D., Chairman

Mr. Bruce Sutherland, Vice-Chairman

C. E. Corrigan, M.D., Honorary Treasurer

Ruin Lyons, M.D., Honorary Secretary

J. C. MacMaster, M.D., Executive Director

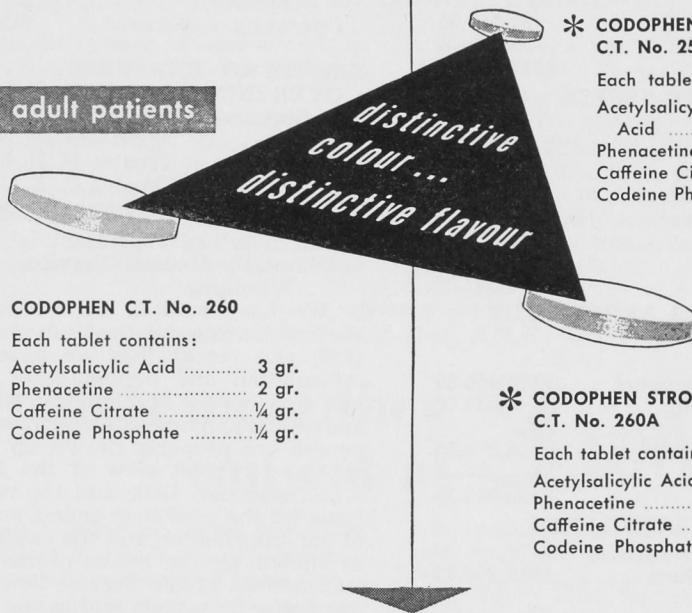
A Non-Profit Service for Residents of Manitoba

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SEDATIVE • ANALGESIC

for little patients

for adult patients



\* CODOPHEN PAEDIATRIC  
C.T. No. 259

Each tablet contains:

Acetylsalicylic Acid .....  $\frac{7}{8}$  gr.  
Phenacetine .....  $\frac{5}{8}$  gr.  
Caffeine Citrate .....  $\frac{1}{8}$  gr.  
Codeine Phosphate  $\frac{1}{8}$  gr.

\* CODOPHEN C.T. No. 260

Each tablet contains:

Acetylsalicylic Acid ..... 3 gr.  
Phenacetine ..... 2 gr.  
Caffeine Citrate .....  $\frac{1}{4}$  gr.  
Codeine Phosphate .....  $\frac{1}{4}$  gr.

\* CODOPHEN STRONGER  
C.T. No. 260A

Each tablet contains:

Acetylsalicylic Acid ..... 3 gr.  
Phenacetine ..... 2 gr.  
Caffeine Citrate .....  $\frac{1}{4}$  gr.  
Codeine Phosphate .....  $\frac{1}{2}$  gr.

\* Narcotic Order Required. Codophen tablets are orange coloured but are otherwise unmarked.



THE *E.B.S.* SHUTTLEWORTH CHEMICAL CO. LTD., TORONTO, CANADA  
AN ALL CANADIAN COMPANY . . . SINCE 1879

Representative: Mr. S. M. Fairclough, 542 Ingersoll Street, Winnipeg

**Department of Health and Public Welfare**  
**Comparisons Communicable Diseases — Manitoba (Whites and Indians)**

DISEASES	1952		1951		Total	
	Jan. 25 to Feb. 21, '53	Jan. 1 to Jan. 24, '53	Jan. 27 to Feb. 23, '52	Jan. 1 to Jan. 26, '52	Jan. 1 to Feb. 21, '53	Jan. 1 to Feb. 23, '52
Anterior Poliomyelitis	6	6	0	0	12	0
Chickenpox	150	176	115	138	326	253
Diphtheria	0	3	0	1	3	1
Diarrhoea and Enteritis, under 1 yr.	11	1	7	1	12	8
Diphtheria Carriers	0	0	0	0	0	0
Dysentery—Amoebic	0	0	0	0	0	0
Dysentery—Bacillary	2	0	1	0	2	1
Erysipelas	5	0	1	3	5	4
Encephalitis	0	0	0	0	0	0
Influenza	12	1	5	5	13	10
Measles	699	539	78	146	1238	224
Measles—German	7	5	3	0	12	3
Meningococcal Meningitis	1	4	0	0	5	0
Mumps	188	128	182	151	316	333
Ophthalmia Neonatorum	0	0	0	0	0	0
Puerperal Fever	0	0	0	0	0	0
Scarlet Fever	66	40	57	67	106	124
Septic Sore Throat	2	0	9	1	2	10
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0
Trachoma	0	0	0	0	0	0
Tuberculosis	62	15	41	27	77	68
Typhoid Fever	0	0	0	0	0	0
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	0
Undulant Fever	0	0	0	0	0	0
Whooping Cough	16	8	62	31	24	93
Gonorrhoea	84	110	88	93	194	181
Syphilis	2	7	10	8	9	18
Infectious Jaundice	22	12	4	2	34	6

Four-Week Period January 1st to January 24th, 1953

**DEATHS FROM REPORTABLE DISEASES**

For the Month of February, 1953

DISEASES (White Cases Only)	*798,000 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
Anterior Poliomyelitis	6	5	4	8
Chickenpox	150	184	2766	—
Diarrhoea and Enteritis, under 1 yr.	11	12	—	—
Diphtheria	—	—	1	—
Diphtheria Carriers	—	—	—	—
Dysentery—Amoebic	—	—	—	1
Dysentery—Bacillary	2	3	13	10
Encephalitis Epidemica	—	2	—	—
Erysipelas	5	3	4	—
Influenza	12	4	143	200
Infectious Jaundice	22	38	118	48
Measles	699	690	4065	595
German Measles	7	32	216	—
Meningitis Meningococcus	1	5	12	5
Mumps	188	149	2441	—
Ophthal. Neonat.	—	—	—	—
Puerperal Fever	—	—	—	—
Scarlet Fever	66	211	423	172
Septic Sore Throat	2	81	6	20
Smallpox	—	—	—	—
Tetanus	—	—	—	—
Trachoma	—	—	—	—
Tularemia	—	—	—	—
Tuberculosis	62	28	125	61
Typhoid Fever	—	—	5	—
Typh. Para-Typhoid	—	—	—	—
Typhoid Carrier	—	—	—	—
Undulant Fever	—	—	—	—
Whooping Cough	16	21	140	12
Gonorrhoea	84	—	185	—
Syphilis	2	—	53	—

\*Approximate population.

**Urban**—Cancer, 62; Measles, 1; Pneumonia, Lobar, 8; Pneumonia (other forms), 9; (of newborn), 2; Poliomyelitis (late effects), 1; Syphilis, 1; Tuberculosis, 5. Other fungus infections, 1; Septicaemia and Pyaemia, 1; Diarrhoea and Enteritis, 1. Other diseases attributable to viruses, 1. Other deaths under 1 year, 15. Other deaths over 1 year, 228. Stillbirths, 14. Total, 257.

**Rural**—Cancer, 32; Influenza, 2; Pneumonia, Lobar, 6; Pneumonia (other forms), 7; (of newborn), 1; Tuberculosis, 4; Septicaemia and Pyaemia, 1; Diarrhoea and enteritis, 1; Diarrhoea of newborn, 1; Dysentery, 1. Other deaths under 1 year, 12. Other deaths over 1 year, 128. Stillbirths, 9. Total, 149.

**Indians**—Cancer, 1; Pneumonia (other forms), 1; Septicaemia and Pyaemia, 1; Diarrhoea of newborn, 1. Other deaths under 1 year, 2. Other deaths over 1 year, 5\*. Stillbirths, 0. Total, 7\*.

\*1 white on Indian Reserve included.

**Poliomyelitis** at date of writing (March 5th) is still running on into 1953 with 16 cases reported, all but four having some paralysis. Of the sixteen, thirteen are males.

**Diphtheria**—No more cases reported.

**Chickenpox, Measles and Mumps** continue to be epidemic but not in serious proportions.

**Rabies in Animals** has been receiving considerable publicity but so far has not affected Manitoba. We are more worried about the possibility of this infection from the south as both Minnesota and North Dakota report cases in animals every week. The lowly skunk is reported most often.

### Detailmen's Directory

Representing Review Advertisers in this issue, whose names are not listed under a business address.

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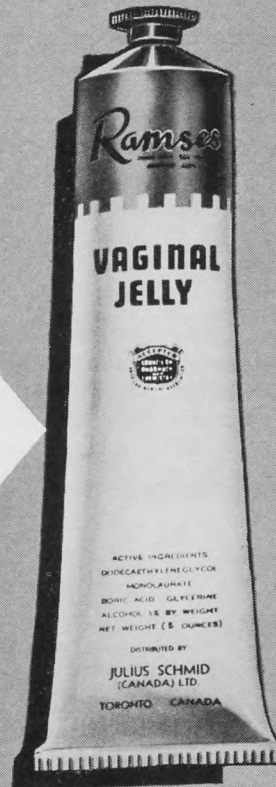
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The method of referral is as follows:

The physician advises the mother to contact Mrs. M. McDonald, speech therapist, or he contacts her himself, and she will arrange an appointment for the child. After the initial interview, the therapist sends a written report to the physician on her findings and subsequent treatment. If therapist feels that the child needs further investigation, i.e., an assessment of the I.Q., this service can be arranged at the hospital, with the permission of the doctor who referred the case.

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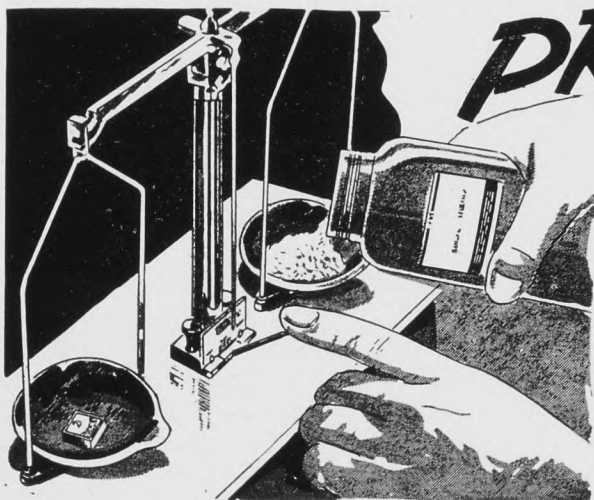
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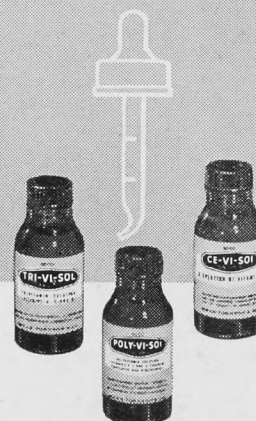
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